THE FUTURE OF AMIGA COMPUTING

AMIGACTIVE

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SPECIAL PRICE

DIGITAL CONVERGENCE

PAGESTREAM 4
HANDS-ON PREVIEW

SAMBA NETWORKING
WITHOUT TEARS

SHOW REPORTS
HOME ELECTRONICS WORLD
COMDEX FALL

Plus
Digital Almanac
Developer CD 2.1
Heretic 2 Preview
OS 3.5 Masterclass

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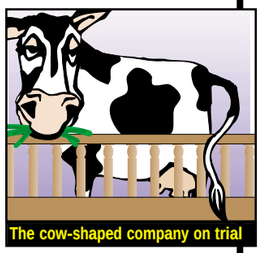
Regulars

Home Electronics World 1999


The cow-shaped company on trial


Bluey vigilantly monitors our post

Reviews


Pagestream 4: Hands-on preview!


Real Panel, real flat, real sound?


KingCon: King for a day, or a month

Features


Digital Convergence explained


Amiga OS 3.5 Masterclass. Boing!


Heretic II is coming to the Amiga...

AACD 04

This month's CD, like its older brothers, is chock full of useful and fun material. Here are some selected highlights, but don't stop here, check out the rest of the CD yourself.


Digital Almanac. You are, er, well...

• Digital Almanac: Read the review this issue and try out the program for yourself. As well as the demo version of this stargazing program, we have extra information and updated data files for the full program.

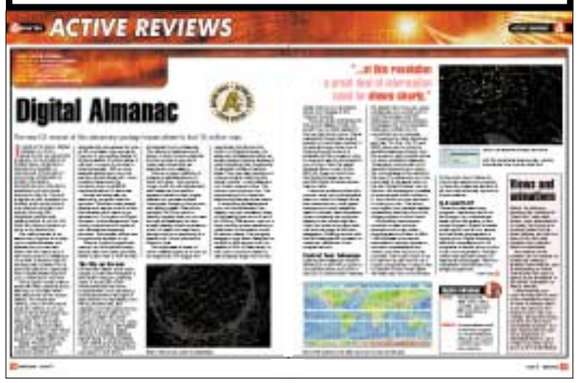
• AmigaOS 3.5: All of the program mentioned in the OS 3.5 Masterclass and some more usefuladdons besides. The Websites section of the CD also contains postings to the OS 3.5mailing list, read what others are doing to make the most of their upgrade.

• Commercial updates: Whenever possible, we bring you updates for commercial as well asshareware software. This month we have updates for PFS3, Directory Opus, CyberGraphX,IOBlix and the new version of Picasso96.

• Demos, mods, anims and pictures: As always, we bring you a selection of visual andaudio treats.

• Readers: We didn't receive enough submissions to warrant a separate drawer this month.If you have a program, demo, mod or anything else you would like to share with the restof our readers, see the CDsubmissions file in the Magazine drawer for details of how tosend it to us.

This is really only scratching the surface. double-click the Welcome icon and have agood browse around the CD for yourself, and don't forget there's an easy-to-use Search program if you're looking for something in particular. If you have any comments about the CD, don't forget to let us know. E-mail aacd@amigactive.com or write to: AACD 4, Amiga Active magazine, Systems House, 3-11 Spring Road, Bournemouth BH1 4PZ.



Unmetered Internet calls from BT ...and plans for ADSL

British Telecom have announced new packages for *"unlimited Internet access."* These would appear to be in addition to their previously announced Service Provider Tariff. BT Surftime will offer several packages, each offering *"unlimited usage"* at different times of the day or week. The packages are as follows:

Weekend Internet option - a £6.99 per month charge for unlimited access at the weekend plus any applicable ISP subscription charge. On weekdays, customers will be charged at only one penny per minute evening and night-time and two pence per minute during the day.

Evening and night-time Internet option - a £6.99 per month charge for unlimited access during the evening and night-time, Monday to Friday, plus any applicable ISP subscription charge. At weekends, customers will be charged at only one penny per minute and two pence per minute on weekdays.

Daytime Internet option - a £26.99 per month charge for unlimited access during the day, Monday to Friday, plus any applicable ISP subscription charge. Outside this period customers will be charged at only one penny per minute.

Anytime Internet option - a £34.99 per month charge for unlimited access at anytime, day, evening and night-time, and weekends, plus any applicable ISP subscription charge.

'Pay-as-you-go' Internet option - Internet calls charge at one penny per minute evening, night-time and weekend as well as two pence per minute during the day, plus any applicable ISP subscription charge.

BT Surftime will also be available to customers on Home Highway and ISDN lines. All prices include VAT.

Whilst the announcement has confirmed the view that US-style flat-rate Internet access is an inevitable pathway for the UK, industry leaders have responded angrily to the announcement, claiming the charge of £34.99 for BT's most comprehensive option is too expensive for mass adoption.

According to America Online's (AOL) CEO Andreas Schmidt, UK consumers will be paying nearly twice as much per month compared to America. The Campaign for Unmetered Telecommunications (CUT) welcomed the news from BT, but warned that their job was far from over, also claiming that the proposed prices were too high and that a price of £20 per month would be far more reasonable compared to the rest of Europe.

Consumers, meanwhile, have shown a mixed response to the announcement, claiming that it marks a turn for the better for the UK's take-up of the Internet - despite the news coming a lot later than hoped.

The Good, The Bad

The main benefits of unmetered Internet access, at the right monthly charge, will be seen in the areas of e-commerce and online gaming. UK businesses are now expected to quickly adopt e-commerce in the face of growing competition from the rest of Europe. UK e-Minister Patricia Hewitt welcomes the move as part of the Government's plan to make the UK the best place for e-commerce by 2002. Meanwhile, for those less interested in the success of e-commerce, it is predicted that long stints of online gaming should finally become a reality - good news for Amiga owners awaiting Hyperion's port of Heretic 2 (see our preview this issue starting on page 50), and therefore for BT as well, who should expect to benefit from the addition to many homes of a second phone line.

Main concerns surround the effect of the announcement on free ISPs and the actual financial benefits to individual users. At £34.99 a month, individuals would have to work out just how much they currently spend on Internet calls to find out if the charges would benefit them in the long run.

Concern of the effect on other Internet Service Providers (ISPs) was realised the day after BT's announcement as Freeserve's stock price fell sharply. Free ISPs do not charge a subscription fee, getting their revenue instead from a percentage of local phone call charges. Adopting BT's new flat-rate scheme would mean an end to this source of income, but Freeserve, who in September announced they were making more money from e-commerce and advertising than they were from call revenue, remain confident that they will not be adversely affected by the scheme, although they couldn't confirm whether or not they would adopt the new model.

The Ugly?

Of further concern is the effect of the announcement on the introduction of ADSL (Asymmetric Digital Subscriber Line) to the whole of the UK. BT has been trialling a scheme in North London for the past year, and recently announced that from the Spring of 2000, UK ISPs will be able to buy ADSL services for a one-off connection charge of £150 and a monthly fee of £35. The cost to end users is estimated to emerge at around £50 per month.

BT is due to install ADSL into 400 exchanges around the country in the Spring, bringing the service to around 6 million households, although the telecommunications provider has come under fire for planning to provide a slower service at higher cost than was originally intended. The first phase of the North London trial saw users being offered 2Mbit/s access speeds for £30 per month. For phase two, BT changed the scheme to a more *"realistic"* 512kbits/s at a cost of £50 per month - a quarter the speed for nearly twice the price. In France, users enjoy ADSL services for half that price.

BT have claimed the prices are *"highly competitive,"* and anticipates a huge demand for ADSL. *"If the market grows as we expect it to, we will cover 70 percent of UK homes by the end of 2001,"* said Bill Cockburn, group managing director of BTUK, going on to claim that *"no other country has such an aggressive roll-out programme."*

Earlier, BT Chairman Sir Iain Vallance admitted to losing the war of words on on the on-line revolution, but said it was time to look at the economic realities of broadband communications and internet pricing. Speaking at the Telecommunications Managers Association conference in Brighton at the end of November, Sir Iain tackled the subject of mass deployment of broadband technology:

"I simply don't buy the idea that (...) knowledge is all and experience counts for nothing. Everyone, no matter how inexperienced, claims to know better than BT."

Whether or not BT's *"aggressive"* ADSL plan will be dampened by the response to their unmetered Internet call tariff remains to be seen - although even if everything goes according to plan, 30 percent of the UK population will still be waiting for high-speed ADSL Internet connections in two years' time. But until then, unmetered internet access may just suffice.

News Bites

Apple Bitten

Following the Microsoft anti-trust ruling reported last issue, Apple has been suspected of violating anti-trust laws in Japan. The Fair Trade Commission made an inspection of Apple Computer Japan's headquarters on December 7.

Reports have suggested that Apple Japan pressured retailers into not selling its iMac desktop and iBook computers below retail list prices by threatening to suspend shipments.

He won at iwon

Not to be confused with Iwin, Iwon.com - an American Internet portal backed by CBS - has given away one million dollars in its second monthly giveaway.

Dan Barclay, father of six from Babylon, New York, was awarded the prize on December 12.

Iwon.com are giving away $10,000 each day, $1 million once a month and a whopping $10 million once a year. Users are entered into the daily, monthly and yearly draws for free, just for using the site to search the web or check their e-mail.

The catch? You must be a resident of America aged over 18 to be eligible for the sweepstake. D'oh!

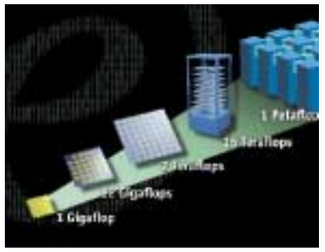
Sex, Chips, or sausage roll?

According to a recent survey, one in five Brits prefer eating chips to using their computer, and a quarter would rather be using their hard drive than their sex drive.

The survey was carried out by Microsoft, so we assume the computer implied was a Wintel box, which would make the results even more shocking.

Got some news? E-mail the Amiga Active news desk at: news@amigactive.com or write to: Amiga Active magazine, 3-11 Spring Road, Bournemouth BH1 4PZ

Two Million Times Faster!



IBM have announced a $100 million research initiative to build the world's fastest supercomputer, estimated to be 500 times more powerful than those currently available.

The supercomputer will be 1,000 times more powerful than Deep Blue (the supercomputer that famously defeated Gary Kasparov in a game of chess in 1997) and an estimated two million times faster than today's fastest Desktop Pcs. It will allow scientists to model the folding of human proteins and give researchers a better understanding of human diseases and potential cures.

Above: Dr. Ambuj Goyal and Dr. Paul Horn of IBM. **Top left:** From individual processors to a super-computer: how Blue Gene will be put together.

Dubbed *"Blue Gene,"* the computer heralds *"the first major revolution in how computers are built since the mid-1980s,"* said Dr. Ambuj Goyal, IBM Research's vice president of computer science. *"We call this new approach to computer architecture SMASH, which stands for Simple, Many and Self-Healing."*

Blue Gene will be made up from over one million processors, each capable of one billion operations per second (1 gigaflop). With 32 of these processors on a single chip and 64 such chips on a board, a single two-foot square circuit board will be capable of two teraflops. 64 racks, each consisting of eight such boards will be linked together to form a machine less than 2,000 square feet in size and capable of one petaflop (one million billion op/second).

http://www.ibm.com/news/1999/12/06.phtml

3dfx Glides open

3dfx Interactive, Inc. have announced that their Glide API (Application Programmers Interface) is to go Open Source. The hardware specs for all its currently shipping 3D accelerators will also be made available to the public.

The California based company, manufacturer of the Voodoo range of 3D graphics chips hopes that both software developers and members of the Open Source community will now be able to better develop, support and maintain drivers for 3dfx products. 3dfx will now focus its internal efforts on developing Direct3D and OpenGL hardware.

Glide was originally developed in 1996 to allow developers to take advantage of Voodoo's custom 3D features.

The move increases 3dfx's potential to become a leading standard for cross-platform 3D hardware and has been welcomed by Linus Torvalds, founder of the Linux Operating System.

http://www.3dfx.com

latest news from Eyetech

Eyetech are pressing on with the development of their EZTower system with the release of the Mk5, now sporting a built in DF0 faceplate, a total of nine drive bays and ATXPC motherboard compatibility for conversion into a joint Amiga/PC EZPC-Tower system.

Now appointed the exclusive UK distributor of Active Technologies' Amiga products, Eyetech are the place to go if you're looking for products such as the award-winning Netconnect 3 (reviewed last issue) and STFax (reviewed in issue two) software. New Netconnect 3 bundles have just been launched - now you can get everything you need to connect to the 'net in one package - see Eyetech's advert this issue for details.

The bargains don't stop there - not content with their online bundles, they are now offering new low-cost scanner bundles too. Get your hands on a Mustek 600 DPI (dots per inch) parallel scanner together with the IOBlix parallel port for the A1200 and ScanQuix4 award winning software all for under £150.

There's more - Amiga-Amiga and Amiga-PC networking packages are also available. An ethernet card, with the required drivers, will set you back £44.95, whereas two cards and a connecting cable will cost you slightly more at £89.95. Both packages include PC drivers for connecting to a notebook. Meanwhile, an Amiga PCMCIA card and a PCI ethernet card for your PC (with a cable to connect them both) costs £69.95. All packages include Amiga-Amiga and Amiga-PC networking software.

Finally, as it's the Millennium, Eyetech have five limited special offers on Apollo accelerators. Prices are as follows:

1230/40	8 Mips	£59.95 (includes 4MB RAM)
1240/28	21 Mips	£99.95
1240/40	30 Mips	£149.95
1260/75LC	59Mips	£199.95

For more information on any of the above offers, give Eyetech a call on (01642) 713185 or visit their web site at:

http://www.eyetech.co.uk

Epic to let you do your own Marketing?

As we were going to press, Epic Marketing revealed plans for a new software publishing system which will allow anyone to publish their creations and have end users buy via credit card direct from Epic.

Programmers will upload demos of their software to a space on Epic's web site and fill in information about their program which will then be viewable by other visitors to the site. The full version of the software can then be purchased online, via credit card and will be shipped to the purchaser direct from Epic. Full details of the scheme should be available on Epic's web site by the time you read this.

http://www.epicmarketing.ltd.net

10MBit Ethernet for A1200

...now that's innovative!

Innovative of Germany have announced the availability of their 10Mbit ethernet PCMCIA card for A1200 and A600 owners. The required SANA-II networking drivers are included, as are instructions on setting up a connection between your Amiga and a PC.

In other news, an enhancement kit for fxPaint (which we reviewed last issue) has been released. Boasting several speed enhancements over the original version, the enhancement kit also provides direct support for Picasso96. An fxPaint FAQ has also been made available on Innovative's web site.

http://www.innovative-web.de

£££££££££££

It's the Discount that Counts

After a long delay, AmigaSoc have announced the return of their User Group Discount Scheme.

User group members in the UK are now entitled to a discount of between five and 25 percent off selected items from a number of Amiga companies, including Amiga Survivor, Blittersoft, Epic Marketing, Eyetech, Fore-Matt Home Computing, HiSoft Systems, Paul Nolan, Power Computing and White Knight. All orders must be placed through your user group representative in order to qualify for the discount scheme.

If you aren't already a user group member, there's never been a better time to join. AmigaSoc's web site contains a user group section, where you will be able to locate the user group nearest you and find out how to join.

AmigaSoc expect to sign more dealers to the scheme over the coming months. For more details about the scheme, keep an eye on AmigaSoc's web site.

http://uk.amigasoc.org/usergroups

Editorial

Marketing, Marketing, Marketing!

Oddly enough, despite the recent Cologne show, we didn't have that many products to review this month. It's not much of a problem for us, really. When we worked out the basic design and layout of the magazine, one important innovation was the flexible section format.

Rather than waste your time by giving long reviews to any old rubbish we find just to fill pages, we write about something useful and interesting. Even if there aren't many new products to talk about, there are older products to do Masterclasses on, technologies to discuss and tutorials to run. There's no shortage of things to write about - if I had enough writers and a big enough budget we could come up with enough article ideas to fill a magazine twice this size easily.

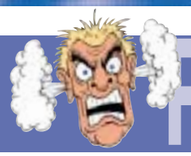
Now I'm sure that part of the reason why there was so little sent in for review this month is that the market is a bit depressed after the announcement from Amiga that they have scrapped the MCC. However, the truth is that there were actually more products released this month, we just haven't reviewed them all. In a couple of cases this is because they are products which require long review periods, but in some other cases it is because we don't have them yet. It's not uncommon for people to ring, e-mail or write to a magazine asking why a particular product hasn't been reviewed yet. Of course we want to review exciting new products, but we can't review things we don't have. Often this is caused by missed release dates, but just as frequently, it's because we haven't been able to get a review sample yet.

Free publicity

Now speaking personally, I find this utterly bizarre. If I was releasing a piece of software or hardware (especially in a small market like the Amiga market), the first thing I'd think about was marketing it - making people aware that it existed and was available to buy. The easiest and cheapest way of doing that is to send out review copies to magazines. Why is it that we have to chase these things up ourselves more often than not? More to the point, why is it often so difficult to persuade companies to get around to shipping a review sample even when we have gone to them and asked for one? OK, I can understand that a company shipping a product that they know is bad might not want their product reviewed, but if you believe in your creation, then surely you would jump at the chance of getting thousands of people reading about this wonderful new release?

Normally, companies in any publishing or manufacturing field put a lot of thought and effort into ensuring good publicity for their products, and there are certainly some Amiga companies who that applies to - but it amazes me how often we have to chase companies up repeatedly in an attempt to give their new releases free publicity. What's the point of having a great product if no one knows about it? I can almost understand why there is so little generic product advertising in the Amiga market despite how cheap adverts in UK Amiga mags have traditionally been, but this one is a real puzzle to me. It seems that the bad marketing of the Amiga market that many blame for the downfall of Commodore continues to work its curse long after that company has gone.

Andrew Korn



Rants and Raves

Read all about it!

(If you can find it...)

We all know the Amiga market isn't as big as it used to be, but does that excuse people from making an effort nowadays?

In all my time of owning, using and writing about the Amiga, there's one thing that has consistently frustrated me: the gradual decrease in the amount of thought, planning and presentation that has been going into Amiga products.

In this month's Editorial (turn back a page), Andrew touches on the subject of review samples and the effort we have to put in to chasing them. This is a bad thing - but not just for companies who want to survive in the Amiga market today. The more time a magazine spends chasing a product, the harder it is to give it a full, thorough review - and because you would rightly write in and complain if we skated over something, we have to work through nights as deadline approaches in order to tell you what you need to know. All that added last minute work dealing with promised - but not delivered - review products doesn't help.

The end result is, predictably, fewer sales. If a piece of hardware or software receives a less-than-glowing review, it won't sell as well as it might. When this happens, companies appear to take it as a sign that the Amiga market is dying (again), and resign themselves to the fact that they needn't make the effort next time.

Second Nietzsche

When Friedrich Nietzsche coined the phrase "That which does not kill me, makes me stronger," he obviously wasn't thinking of the Amiga market, which appears to follow the little-known: "That which does not kill us just makes us a bit weaker, but there you go, what can you do?" variation. The result of this attitude is that Amiga releases these days tend to fall into one of the following categories, neither of which are ideal:

1) A product that turns out to be great, but no-one (remember I'm not just talking about the online Amiga community here) hears about it until the last minute (Pagestream 4, WipEout 2097...)

2) A product that receives plenty of hype but either a) never materialises or b) is consistently postponed until everyone forgets it ever existed. (AmozillaX, BoXeR...)

Then there's advertising. Products like NetConnect 3, Apollo's Z4 board, WipEout 2097 and Pagestream 4 would, in an ideal world, be promoted with at least a couple of full-page adverts in the mainstream Amiga press upon their release. Instead, promotion is left solely to distributors who, more often than not, relegate the product to a thumbnail-sized spot in the bottom corner of their full-page ad. Never mind, people will get to hear about the product through the rave reviews in the Amiga press, right? With a suppressed sigh, I refer you back to the beginning of this article.

In a way, such inadequacies are understandable; in a small market, publishers are keen to launch a product as quickly as possible after it is complete, and as a result they tend to neglect a few of the niceties. The problem is that not many companies in the Amiga market know the difference between niceties and necessities, and proper marketing is a necessity. If they don't get this right, they are cutting their own throats.

David Stroud

Below: In an ideal world, games like WipEout 2097 would be promoted with full-page ads in the Amiga press. If only it were an ideal world...

interact !

So, what do you think?

We don't just want to share our views with you, we want to hear your own personal opinions. If anything you've read here has made you think, write in to the address on page 54, or e-mail us and let us know!

interactive@amigactive.com

Below right: Online gaming, take 1: Everquest.

Below: Online ~~gaming~~ dying, take 2: Quake.

Rants and Raves

Gaming in cyberspace

There's something big happening in the world of games. Isn't it time we got on board?

It's great that we are seeing some really good multi-platform titles being ported to the Amiga still. Just last month we had WipEout 2097, and we should be getting Heretic 2 in a month or two, with more to come. These are games for the more dedicated Amiga gamer, requiring modern hardware to run, and pushing the Amiga envelope, which is good. What's more, they are truly excellent games. Shame they're so late.

I think that rather than porting tried and tested favourites, games companies should be looking at jumping onto upcoming trends. The necessity of aiming modern games at the higher end of Amigas has a significant impact - almost all potential purchasers will be high end users, and probably keen Internet users. It might be worth an Amiga games company taking a bit of a gamble on Internet gaming.

What the frag...!?

It is already possible to join in Internet games with the Amiga, just so long as it's Quake. Soon we will have Heretic 2 as well. However, these don't strike me as being the right place to start. The culture of on-line FPS (First Person Shooter) games isn't a universally accessible one. A lot of people simply aren't too interested in getting into a frag-fest with a bunch of l33t gamez d00dz. What's more, the hardcore are all playing on £3000 ninja PCs, and by their nature these games give a significant advantage to players with better framerates. There is another, newer trend that might be worth taking a close look at.

Games developer Verant, in conjunction with Sony, have been running a quiet phenomenon for a little while now. Their Internet only PC game, Everquest, is a "massively multiplayer" 3D RPG, closely modelled on Dungeons and Dragons, which lets your avatar interact in a complex fantasy world populated by somewhere averaging between 1000 and 1500 other gamers at any one time. Demand is so high that they run separate worlds on almost two dozen servers to keep up. With sales at around 150,000 it isn't exactly the biggest selling game on the planet, but it has incredibly dedicated players who spend many hours a week in the alternative universe, and pay Verant $10 a month for the privilege (on top of the £34.95 price of the game).

The immersive nature of Everquest is the key to its success. Quake's interactivity is limited in comparison. Sure you do a lot of fighting in both, but Quake never gives you the opportunity to go to the pub with your virtual friends and get drunk, go on complex, globe-spanning quests, develop an online romance, or ruin the local economy by flooding it with cheap imports. Because Everquest engages on a more personal level than Quake, it engages people more deeply. The best evidence of this can be found on various on-line auction sites, where rare virtual Everquest goods and characters are frequently put up for auction and sold for scary amounts of very real money. At time of writing there are over 5000 Everquest items on sale at www.ebay.com, and there are currently 21 bids in for a couple of powerful characters at $4,050 (there's even one bid in at $1,000,000, but that must be a mistake, surely?)

Right for the Amiga?

Porting a game of this type might be more valuable to an Amiga developer than other types of game. When dealing with a niche market like this, the added attraction of a share of the monthly subscription fee could be a tempting possibility. On top of that, this sort of game is time / turn based, and therefore slower hardware is no real disadvantage. Current PPC / Warp3D equipped Amigas would be up to the task, let alone G3/G4 machines.

However, Everquest isn't really the right choice as it has been running a while now, and the developers operate a system of continual upgrade patches which would have to be directly cross-compilable for an Amiga version to be feasible. Maybe Verant's rumoured upcoming massively multiplayer game set in the Star Wars universe would be a better choice. Alternatively, perhaps something Amiga native could go the other way? Explorer 2260 seems to be aiming at a design very appropriate to this model. Once The World Foundry have something really tangible to show, maybe Sony would like to port that from the Amiga, and get a couple of dozen E2260 servers running?

Andrew Korn

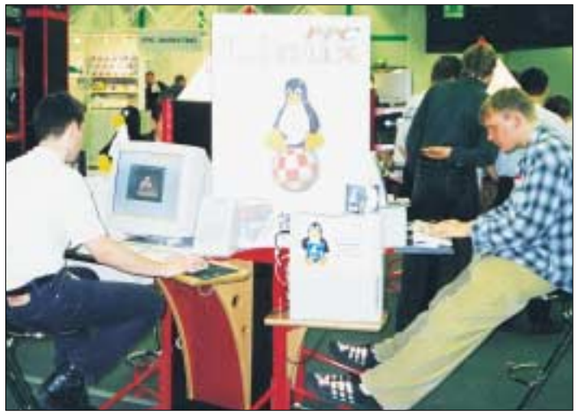
Show Report 99

Home Electronics World

We take a look at the goings on at the year's largest show for Amiga companies.

This year's Cologne show saw a change of name, from "Computer '99" to "Home Electronics World '99." If this name change was supposed to indicate a step towards Digital Convergence, there was little evidence of it inside the exhibition hall. The layout and content of the show was similar to the previous year, although somewhat smaller. The show ran for a total of three days, from Friday 12th to Sunday 14th November.

This was the first major Amiga show in three years where there was no announcement or conference from Amiga themselves. As a result, there is no one piece of "official" news on which to focus. There were several Next Big Things, of various types and from various sources, that were not quite ready to be announced. Similarly, some things we would have liked to see, such as a fully functioning AmiJoe card, were absent. However, that doesn't mean nothing happened. Several companies had new products and the overall mood of the show was much better than many expected after the recent statements from Gateway. It was clear that the Amiga companies present are still committed to the Amiga market. The closest to any form of official announcement was Haage & Partner's briefing for AmigaOS 3.5 beta testers where they outlined their vision for AmigaOS and made it clear that version 3.5 will not be the end of the line for them.



Above: Those damn penguins get everywhere! This A4000 PowerPC system had Linux installed on it, showing just how fast a PPC Amiga can go when running a fully PPC-native operating system.

Past and future history

Amiga had a large stand, making space available to a number of Amiga companies and organisations. The theme of the stand was "History of the Amiga" - various models were on display in glass cases around the stand, ranging from the venerable A1000 to the infamous Walker prototype. However, the Walker wasn't the final model in the display - there was a further machine indicating the potential future of Amiga. This was a PowerPC machine containing the PPC reference motherboard from IBM, containing a G3 processor, although by the time the board goes into production in the spring of 2000 it will most likely use a G4. See the boxout for more information on how this could form the basis of a new Amiga. Nearby, there was a motherboard and accelerator proudly bearing the legend "A500 PPC," although it looked suspiciously like an A500 motherboard joined to a Blizzard PowerPC accelerator with superglue than the future direction of the Amiga.

The Amiga stand had half a dozen A1200s connected to the Internet where anyone could take part in the various IRC (Internet Relay Chat) discussions or simply browse the web. Petro spent some time answering questions from those that were unable to attend the show and keept people up to date on what was happening.

Kato Developments showed their Unity-Net network cards, due for release in early January 2000. These are 10Mb/s and 100Mb/s (Megabits per second) Zorro II cards using an innovative approach. They are combination of a Zorro card and a 10 or 100Mb/s PCMCIA Ethernet card. Although Zorro II is nowhere near fast enough to allow full 100Mb/s throughput, it should be a lot faster than a standard 10Mb/s card. The cards also contain a Twister high speed serial port and have a clock port connector for an optional Melody sound card, or any other A1200 clock port add-on. Prices start at around £80 for the 10Mb/s card and £120 for the 100Mb/s version, both including the Twister.

Amiga Active's stand was busy, selling magazines, CDs and subscriptions. Issue two was sold out by the middle of Saturday afternoon, with almost all copies of Issue one selling by the end of the show. Most people were buying both issues, but we had more copies of the first issue to start with. We regretted only taking a thousand copies of the magazine with us! Although we were the only UK Amiga magazine in attendance, German titles Amiga Plus and Amiga OS were also there, as were the normal collection of journalists from around the world.

Schatztruhe were busy selling of their wide range of CD products, including their Aminet CD and new products like Digital Almanac, Unix Compendium, SuperView IV and the new OS3.5 Developer CD (turn to ***page 30*** to read our review). Schatztruhe were also showing off a rather snazzy customised A4000 tower, complete with spinning Boing ball logo. Greg Perry of GP Software was on hand to demonstrate Directory Opus, answer questions and hand out the latest upgrade. Schatztruhe's Stefan Ossowski said that "sales exceeded their expectations" during the show - not as good as a few years ago but they were happy with the turnout and response from Amiga users. Sales of OS 3.5 from their stand were lower than expected, mainly because many people were buying the latest OS from Haage & Partner. Pre-sales of 3.5 were good, however.

Below: People were impressed by Macro Systems' latest video hardware.

RBM were showing their range of tower conversions, expansion cards and software. New products included ScanQuix 5, although the Ethernet module for the IOBlix cards wasn't quite finished. They expect to have the completed product available by the time you read this. RBM told us that the show was "fantastic, great," and, "better than last year." They sold just about everything they had.

Haage & Partner had several new products on sale at the show. OS 3.5 sold extremely well (they only had two copies left late on Sunday afternoon). They also launched PageStream 4.0 (turn to ***page 24*** to read our hands-on preview), Tornado3D 3.0 and WipEout2097, and were also selling NetConnect 3 and STFax 4. The Haage & Partner stand was generally one of the busiest at the show - PageStream updates had sold out by Saturday afternoon and the other products were also selling well. Titan were the only company to tell us that they were disappointed with sales, but they didn't have Heretic II available as they had hoped.

Above: ProDad, enjoying a well earned rest as the show drew to a close.

The far side

That pretty much covers all the Amiga goodies at the show, but what else was there? As the show title implies, it was all about home electronics, which inevitably covers other platforms besides the Amiga - not such a bad thing. Undoubtedly the biggest presence was dedicated to the PC, and all of the cheap bargains associated

Left: No Petro Party this year, but we think he deserves a raise all the same...

"OS 3.5 sold extremely well"

New PPC Amigas?

Above: Haage & Partner's development PowerPC motherboard. The white square on the left, just above the PCI slots, is a G3 PowerPC processor.

Haage & Partner are planning to port AmigaOS to run on PowerPC. The new PowerPC reference motherboard from IBM, known as the POP board, is set to create a standard hardware base for PPC based computers. Several companies in the Far East have already expressed an interest in building machines based on this design, mainly for use with Linux. News of the POP boards was announced in issue two of *Amiga Active*, although it now appears that IBM will be making the boards themselves, as well as supplying schematics to third party manufacturers. Haage & Partner already have a development board and have begun work on porting AmigaOS to native PowerPC. They are negotiating with Amiga to release a PPC version of AmigaOS for use on these machines and already have the support of Petro Tyschtschenko. In addition to porting AmigaOS, they have to write PPC drivers and subsystems for graphic and sound cards, SCSI controllers and the various other bits and pieces that make up a complete computer system.

The PPC AmigaOS will also run on Amigas equipped with existing PowerUP cards, now that Haage & Partner have all of the documentation relating to these cards, and it is expected that the forthcoming G3 and G4 cards from various hardware developers will be able to run it as well.

The IBM POP design only has a PPC CPU, so older software will need some form of 680x0 emulation. There are two possible approaches here: Haage & Partner already have a working 680x0 emulator which currently runs at around 20MHz 68040 speed on a 200MHz CyberStormPPC (604e), but emulation on the PowerUP cards is seriously hampered by the lack of a level 2 (L2) cache. Running on a 400MHz G4 with full L2 cache would give a speed closer to that of current 68060 processors, possibly even faster.

With the Amiga's system libraries running on native PowerPC code, applications will run faster than on a 680x0 machine of the same equivalent CPU speed. The alternative is a full Classic Amiga emulator based on UAE. It seems likely that a combination of the two approaches would yield the best results, with some software running better on UAE while other programs would benefit more from 680x0 emulation.

"Haage & Partner (...) are negotiating with Amiga to release a PPC version of AmigaOS."

Above: A Commodore PET, one of the first personal computers, and an SX-64, the C64 luggable.

Above: The future that never was and the future that may yet be. A Walker and PPC reference machine.

Above: An Eyetech A1200 special. This 19" rack mount is intended for multimedia presentations. There is also a version that uses a small ROM in place of the floppy drive to enable it to boot from a CD-ROM.

Above: Elsewhere, futuristic TVs and videos were the order of the day.

"Some ex-Amiga names were also in attendance exhibiting some very impressive software and hardware combinations..."

Above: One of the busiest at the show, Haage & Partner's stand was like this much of the time - little wonder they were selling out of products fast!

with it. Items such as budget priced CD-ROM drives and scanners, albeit parallel port ones, were on sale at prices as low as 15DM and 75DM (approximately £5 and £25) respectively. Budget software and games also featured heavily in the discount line-ups.

The Sennheiser stand caught the attention of many show-goers, as they exhibited their new gaming experience, a pair of multimedia speakers mounted in a moulded box worn around the neck. It sounds cumbersome, but in use they bring the action of the game right home *(where is it usually? -desk ed.)*, and heighten the experience no end, so much so that many visitors just couldn't resist a quick try.

Some ex-Amiga names were also in attendance exhibiting some very impressive software and hardware combinations designed for high-end video editing. In true Amiga style both ProDad and Macro Systems put on an impressive display, while giving visitors a chance to try out the new non-linear suite.

One of the great focal points of the show had to be Mercedes' manufactured concept vehicle brought along by TechniSat-TV to promote their new range of exciting and conceptual TV, video and satellite systems, which attracted plenty of visitors to the stand. With so much interest, they just couldn't help themselves showing it off to a greater extent by letting people up into its futuristic cockpit, complete with circular wiper arrangement, to experience the view themselves.

Home Electronics World 99 may have been the last such show to be held in Cologne. This isn't a representation of the state of the Amiga market - the general show attendance, both by exhibitors and visitors, was less than in previous years. Whilst we expect there to be a major show in Germany next year, it's likely to be held elsewhere. Although busy at times, even the PC standholders seemed very disappointed in the eventual turnout. The few stalls selling small components, adapters and leads seemed to fare better than the bigger exhibitors, but they still voiced concern about the lower turnout. There's no doubt the show was not as much of a success as it was last year, but we enjoyed ourselves nonetheless.

Neil Bothwick & Simon Archer

Below left: This custom A4000 tower conversion with rotating Boing ball logo was on the Schatztruhe. The reported cost of the tower conversion, including the custom airbrushed design, was 2,000DM - almost £700.

Below right: Russ and Mark take time out to relax. This was one of the few times the ***Amiga Active*** stand was clear enough to photograph (yes).

New games coming?

A well-known software publisher and distributor told us of their negotiations with a major PC games company. They are close to signing a deal to port a high profile game to the Amiga, with options to produce Amiga versions of other titles from them. They were not prepared to make any details public before the deal is signed, but they are not that far from finalising the agreement. You can be sure the news will be welcomed once they are able to go public with it, and you can be sure that we'll be previewing the games involved as soon as we are allowed to!

Right: Alan Redhouse from Eyetech had some interesting A1200-based industrial hardware on display, and gladly propped up our boxout for us.

Show report Comdex

The same week as the Cologne show and half way around the world from Cologne, the world's biggest computer show was happening...

Over 200,000 people descended on the gambling Mecca of Las Vegas in the Nevada desert for this year's Comdex Fall computer convention. This number was down on last year by nearly 25 per cent, as show-goers opted against attending due to the lack of major new products from the major manufacturers and software developers.

Amiga's parent company Gateway was in attendance, with a huge stand pushing its PC wares, but no sign of Amiga themselves. When we asked why Amiga had not put in the appearance originally planned under Jim Collas, a spokesman replied: "Amiga decided to pull out due to negotiations currently taking place with potential partners". In English, this means they are allegedly talking to either a technology licensee, a hardware manufacturer to handle the electronics side of the business, or a buyer for the firm.

Stiff competition

If current Amiga President Thomas Schmidt's last communication is anything to go by, his plan to target the Internet Appliance market is already facing stiff competition. National Semiconductor subsidiary Cyrix was eagerly touting its Webpad technology with a selection of machines running QNX, Linux, Windows CE and embedded NT. Psion were showing off the soon-to-be-released Psion 7, a sub-notebook version of the Psion 5, while HP, Sharp, LG, Fujitsu and NEC were also there demonstrating a glut of PDAs, web pads, embedded servers and other embedded systems.

Bluetooth is a new standard for short-range wireless networking between devices, and Ericsson and Nokia were among the first to show off new devices to take advantage of this. Ericsson unveiled a new wireless hands-free kit for its mobile phones, while Nokia had a number of concepts on show, including a phone/PDA that would sync with your desktop PC on you entering the room. The other big wireless technology on show was WAP - the Wireless Application Protocol, a standard for network applications on mobile devices - such as phones. Nokia is launching the first WAP mobile phone for the Orange network in January. With it, you will be able to surf the web and access custom information servers over the Internet, with content delivered straight to the phone and displayed on the screen. It's not ideal for browsing graphical sites, but is ideal for short email and services such as travel information.

Sun CEO Scott McNealy delivered what must be the most positive news for both current and future Amiga owners. During his keynote speech he talked long and hard about making all of Sun's software technologies open-source, with the only stipulation being that: "If you take our code, make something out of it and then make a profit from it - then we naturally want a piece of that." If Sun holds true to this then the elusive source code for the likes of Java and its application suite StarOffice will be freely available to Amiga developers to port or incorporate into other applications, making it easier to develop applications with support for industry-standards and mass-market file formats.

Storage Wars

One of the more interesting technology squabbles this year came in the form of the DVD writer war brewing between Panasonic and Pioneer. Both currently have a DVD writable drive on sale, but due the lack of any ratified standards in this area, both systems are incompatible with each other.

Both drives are SCSI-2 based, with the DVD-RAM drive currently selling in the UK for around £450. In stark contrast, the DVD-R drive from Pioneer (faster, higher capacity, and the preferred choice of Hollywood studios and the porn industry) has just gone on general sale in Japan priced at roughly £1,800, and is expected to arrive in the UK next summer, rather than in two years time, as was claimed by some newspapers.

More amusingly Iomega was touting its latest CD rewriter offering, the ZipCD. Iomega launched an internal IDE CD-RW drive a few months ago, which raised few eyebrows and offered nothing different to any other CD-RW drive on the market. Its new offering is external, built much like its classic and multi-million selling Zip drive, coated in thick blue Fisher-Price toy plastic, boasts 4x write, 4x rewrite and 24x read. The ZipCD External will come in the same three connection forms - Parallel, SCSI and USB. No actual UK price has been set but a quick conversion of the US figures puts it at about £199.

Chris Green

Back for the Future

Part Four: Digital Convergence

Time to cut to the chase: Just what is this Digital Convergence thing all about, and does it really mean a world dominated by Set-Top Boxes?

"You could tell your TV to keep an eye on the TV listings web sites, and ring you up if it sees the film coming."

Right: One of Nokia's concepts for an interconnected mobile communications device.

*Yes, yes, we know.

Welcome to the new millennium*. Assuming the world hasn't ended before you get a chance to read this, then welcome to the new era, too. We're finally leaving the fusty old industrial revolution behind for the Information Age.

I know, you've heard this little speech before - it's the one where I waffle on about pervasive computing and set-top boxes, and litter my sentences with the the words "paradigm" and "Digital Convergence", right? All followed yet another idiotic concept about replacing your personal computer with a smart TV. Who am I kidding?

Forget it. Digital Convergence (DC) will happen. However, there is no cause for alarm - it doesn't mean that 'real' computers will cease to be, or even (necessarily) that our toasters will spend the day e-mailing us offers of toasted bread products. DC isn't about the dumbing down of computers, it's about the smarting up of digital appliances.

So why can no-one ever explain it so that it sounds sensible? The real problem is that DC is more a process than a thing. We can see it coming, but it's not as easy to see exactly how it will work or what the effects of it will be. Imagine a Mesolithic town dweller trying to explain to his cousin in the caves what this new "civilisation" thing is all about.

Changing medium and message

Digital Convergence is the product of two separate but fundamentally linked technological changes. The first is the change of content delivery from multiple, incompatible media (print, Cinema, TV, radio, Internet, CD-ROM, vinyl record and so on) to compatible digital media. The second is the shift from the dumb, isolated simple presentational appliance (TV set, stereo, etc.) and separate high cost / high power smart device (Amiga, PC, and to a lesser extent games console) to a range of computerised, intercompatible devices.

The key to the convergence of media is the development of high-speed digital pipelines - methods of delivering large quantities of digital information to consumers. The most widely discussed method of transmission at the moment is ADSL, but there will be other pipelines such as wireless networking, IEE1394, USB2, cable television lines and even good old Ethernet.

ADSL is about sufficient to transmit CD quality audio signals, but that's not terribly impressive. Audio is a relatively undemanding data stream compared to video. However, data compression routines can reduce the bandwidth problem significantly. MP3 audio can sound almost as good as CD while taking up a tiny fraction of the bandwidth of uncompressed audio. Similarly, video can be compressed using a compression system such as MPEG-2. This is a scaleable standard, designed to work at bit rates from 4Mb/s upwards, but it can generate a video signal over a 2Mb/s connection that is almost as good as VHS video. However we'll need more like a 16Mb/s link for DVD quality video, and High Definition Television (HDTV) standards require up to 100Mb/s, so we can expect much "fatter" pipes to be appearing in the future.

Nevertheless, the implication is that the same pipeline we use to access the Internet can be used to broadcast music and video as well as the traditional interactive text and graphic content. This immediately opens up the possibility of combining, for example, a TV listings directory with the TV image itself. The recent Amiga patents developed by Ted Wugofski's Over the Moon Productions (another Gateway subsidiary) dealt with this area. For example, you could have a web page listing what is on TV, and when you pass the mouse over a program listing, a clip of that program plays in a small window. Taking this to its logical extension, this means that you can set up your own listings pages to suit your preferences, or use a search engine to find a program that interests you.

Into the Internet

So we appear to be back to the set-top box model then? Not at all, this is a very limited application of Digital Convergence. The second part of the key is that there are many different types of data available through a single interface - the Internet. What this means is that we lose the traditional disassociation of different appliances. Currently, your TV and your Radio are two different devices - you need fundamentally different hardware to display a television signal than to play a radio signal. However, if both are transmitted as digital information from the Internet, then any device that can talk to the Internet can have access to this data. A Digital Convergence television would include this Internet interface, and would have a visual display (a screen) and audio

Right: Mobile phone technologies will allow compact computing systems such as this Wallet computer concept from Ericsson, which need little power or storage built in: they can get both over the Internet.

"The key to the convergence of media is the development of high-speed digital pipelines..."

A bit too complex?

Now, you might imagine that this Digital Convergence malarky is just going to lead to a lot of additional complexity. Even assuming the availability of simpler networking systems than those we have today, isn't there going to be a lot of configuration and setting up required? Not really: much of the networking will be done for you.

The Bluetooth wireless networking technology already includes automatic file synchronisation between devices. You could collect your e-mail on the move with a mobile phone, and answer the important ones. When you get back to your home or office computer, as soon as it is switched on it will detect the mobile phone and synchronise it. Open your e-mail package and all those less important e-mails you downloaded to your mobile phone are waiting for you on your computer.

You could have been writing the latest chapter of your novel on your palmtop on the train, but when you launch the word processor on your computer, the file you edited on the palmtop will already be up to date.

Taken a stage further, you can see that your computer could detect any new hardware you bring into your home and automatically configure your network to use it - plug 'n' play without the bother of plugging.

Of course, there will be plenty of configuration problems and technical disasters, but Digital Convergence can help out here as well. All these configurable components are networked, remember, so there's no reason why you shouldn't be able to log onto the web site of the company who makes your latest gizmo and install it to your home or office network via their web interface. This interface could even interrogate your network to discover the correct settings and make them itself. We could even expect to download third-party scripts that would add extra functionality by utilising the features of another hardware component in your network or tweaking the performance of the manufacturer's software. Expect a shareware boom.

So what if the worst comes to the worst and some part of your system just stops working? Imagine how much quicker a telephone helpline would be if the operator could summon up your computer desktop environment on his or her own computer and see what the problem is themselves?

"This is not something, despite their efforts with Windows CE, that Microsoft offers."

Below: Small, portable colour devices such as this one from Compaq will allow increasing amounts of work (and play) to be done on the move, thanks to wireless Internet connectivity.

playback (a speaker). As the radio is a subset of this, requiring just the Internet interface and audio playback, your TV can do the job of the radio, too.

Where this starts to get interesting is when you take this functionality to its logical conclusion and share the method of controlling the information. If your mobile phone, television and video can all talk to the Internet, why not give them a way of talking to each other? Imagine you desperately wanted to see a particular movie but couldn't find it anywhere. You could tell your TV to keep an eye on the TV listings web sites, and ring you up if it sees the film coming. If you aren't going to get back home in time to see it, you can ask your TV to put you through to your video recorder, and tell your video recorder to record it for you.

This is where we get into the area of household networking. Using local area networking interfaces such as wireless networking or IEE1394 (Firewire) for video signals, we can connect all these devices together and share not only the information they have, but the hardware, too. Your DVD player decodes the information on a disk and then sends it to the display hardware - but why send it to its own screen? If you have another screen in the house, such as a computer monitor, there's no reason why you shouldn't be able to use that.

This degree of interaction applies to software as well as hardware components. This Internet interface requires a standardised form of structuring data. Just as the current HTML standard allows you to present text data, static images, Shockwave/Flash animations and so on in a single interactive interface (the web), modern interfaces are being developed to include wider types of content, including higher quality video and audio streams, but going much further. Already, standards exist for embedding 3D graphics rendered by the host system, two-way voice and video streams, dynamic database structures and even software applications (through Java) into a web page. With upcoming technologies such as MPEG-4, multimedia streams themselves are becoming interactive, with editable sub-elements of an image or multimedia stream. This would allow the creation of an interactive, immersive 3D environment as a web site.

Principally what all this means is an all-purpose, OS- and hardware-neutral multimedia API. This is very useful to appliance manufacturers, as it allows them to standardise parts and interfaces. On the hardware front, the development of powerful and low cost custom processors makes this a very attractive proposition. The processing power in relatively simple modern appliances is capable of running a web browser, so why not make it simple and do everything that way?

Of course you don't actually want a DVD to have a full install of Internet Explorer. You only require a subset of these facilities, and you don't want the massive hardware overheads involved in Microsoft's browser and OS. This is where plans such as those from QNX Software Systems Ltd, Amiga and Amino come into it. What you really need to underly all this is an Operating System which can run on multiple hardware platforms, can be scaled and customised significantly to include only the necessary parts, and which is efficient enough to run well on hardware that is often considerably less powerful (at least at many tasks) than a modern desktop CPU. This is not something, despite their efforts with Windows CE, that Microsoft offers. Opportunity knocks.

Going back to the example of the image from the DVD player being displayed on the computer screen, we can see how this extension into software starts to work. The interface for your DVD player might be remote control with a touch sensitive LCD screen displaying a simple button-based GUI. As the GUI utilises a universal (probably Java based) interface standard, why not have a simple Java application on your computer that does the job of the remote control? Your computer might exactly duplicate the GUI of the remote control, or it might have a more visually sophisticated GUI. You could even mix elements of multiple GUIs, so that the one on your computer controls not only the DVD player but also the volume knob on your stereo, for example. For the really dedicated couch potato, you could even add a button to the DVD remote control's GUI that connected your computer to the web site of your local pizza parlour and ordered you a deep pan Quattro Formaggio with extra cheese.

So what about computers?

OK, so after 1500 words I'm still talking about watching TV *(and eating pizzas! - Desk Ed.)*. No wonder people worry that this is nothing to do with what they think of as computers. This couldn't, in fact, be further from the truth. What's happening here is that all those household electronic devices are in effect becoming limited functionality computers, while your computer gains access to the facilities of all these individual components. It will no longer matter to your computer whether it has its own TV decoder just so long as it can talk to another machine somewhere that does, but there's much more to it than that. As any data element or hardware element is accessible across the network, either locally or through your Internet pipeline, all the functions of your computer are in effect free floating network elements. You ask for a TV decode facility, and the computer will find it wherever it is on the network and use it. Now let's look at that in a more computer oriented context. It's not just TV decoders - your computer won't care

Right: The ultimate in digital convergence! This digital camera has enough computing power to emulate classic arcade games, via MAME. See http://members.aol.com/JWSurine

"...you could even add a button (...) that connected to the web site of your local pizza parlour and ordered you a deep pan Quattro Formaggio with extra cheese."

Core technologies & BUZZWORDS

Confused? You needn't be...

Bluetooth - Low cost short range wireless transceiver technology with automatic device sensing and data synchronisation. Uses a 2.4GHz band, with a 10 meter range and a bandwidth of approximately 1Mb/s. Currently being pushed into mobile phones and PDAs, it also promises the "wireless desktop."

DSL - Digital Subscriber Lines, providing 'always on' high bandwidth communications over POTS (Plain Old Telephone Service) networks. Although there are many variants, the most common is ADSL (Asymmetrical Digital Subscriber Line), which offers anything from 256kb/s to 2.5Mb/s downstream with a slower (typically 128kb/s or 384kb/s) upstream rate. May eventually offer up to 8Mb/s.

DOCSIS - Data Over Cable Service Interface System, a standard for information sent over Cable TV networks. Supports a 27Mb/s asymmetrical downstream, but this is normally shared between a number of users to give performance comparable to the top end of DSL solutions.

Encryption - New technologies bring new problems, and the biggie for ubiquitous invisible networking is security - who wants their telephone to catch a virus? Data objects transferred locally or over the Internet will have to be secure, and solutions will include trusted certificate validation and low level real-time public and private key encryption of message passing.

Firewire / IEEE1394 - High performance serial bus standard supporting up to 63 hot-pluggable devices communicating at speeds up to 400Mb/s. An attractive solution for digital video, it has been adopted as the standard for HAVi networks. Firewire is Apple's name for the standard. Apple's current interest in digital video for home users may indicate a corporate trend towards some sort of HAVi computer.

HAVi - The Home Audio Visual interoperability standard from Grundig, Matsushita, Philips, Sharp, Hitachi, Sony, Thompson and Toshiba offers an excellent solution for home appliance networking but doesn't extend far enough into the digital domain through computer and Internet connectivity (yet).

Information Appliance - Any 'smart' device which is capable of processing digital information. As well as set-top boxes, the umbrella term of "information appliance" includes everything from Internet-aware microwave ovens to high-end computer workstations.

Java - A relatively simple, platform independent, object oriented programming language developed by Sun that can be run on client or server side. As it is compiled at run time, the same source code will work on any computer running a Java Virtual Machine (JVM).

Jini - Sun's Java based scheme for spontaneous network interaction, Jini is an interface that allows components in a network to recognise each other and offer their services to the network. For example, you would only have to plug a Jini based image setter into a network, and any computer on the network would be able to access it without needing software installation or any other form of user intervention.

MPEG 2/4/7 - Multimedia standards from the Motion Pictures Experts Groups. MPEG 2 is the video compression scheme used for DVD. MPEG 4 is an upcoming standard that allows elements in a multimedia environment to be treated as

continued...

where your storage devices are, either. Or your mouse. Or your 3D graphics card. Even your CPU - no reason why your computer shouldn't be able to use some of that spare computing horsepower in those other devices to speed up rendering times!

The previous example of the DVD player GUI being displayed on the computer desktop is an aspect of Digital Convergence which could have a major impact on desktop computing. If any element in the user interface can exist somewhere else on the network, you have the possibility of a customised desktop environment which includes information in windows, gadgets, menu options or buttons that are linked to an entirely different computing device.

On the simplest level you might, perhaps, have a webcam image of the face of Big Ben as your desktop clock. On a more complex level, you might click on an icon for an application which exists not on your computer but on a server somewhere else. For example, Sun are producing a Java version of Star Office that you will be able to run over the Internet in any browser equipped with a Java Virtual Machine. You could have a spreadsheet of your stocks portfolio with stock value cells continuously updated, or a graphics program with networking plug-ins that you pay for by usage, rather than having to buy the full plug-in even if you only want to use it once. You could play a multi-player online game using Voice Over Internet to talk to other players and hear their voices coming from the direction their character was in, maybe even see a live video image of their face mapped as a texture onto the face of their character. You could create a 3D rendered scene of a living room and have the TV set actually work when you click the 'on' button with your mouse. You could create a Scala like multimedia presentation using random access playback of video clips on a DVD without having to worry about additional control hardware or genlocks, and you could automatically download a script of the presentation to the mobile phones of everyone attending. The really exciting applications are the ones no-one has thought up yet!

Below: Far more than just a console. Sony intend on using the Playstation 2 as a multi-purpose digital convergence device - with games, DVD movies, computing functions, online purchase of games, movies and music all part of the Sony vision. With some of the best underlying technology there, all they need to do is pick up AmigaOS to run on it for PSX-2 based computers and we'll be their friends for life...

The desk-free desktop

What's more, as all the elements of your desktop are networkable, there's no need to limit them to your desktop computer. A computer is overkill for many tasks, which is why we have these scaled down computing systems with dedicated hardware as appliances with limited functionality. However, up to the limits of that hardware, you will be able to run whatever else you want over the network. You won't have much joy using your radio as a computer as it has no keyboard or display. On the other hand, there's no reason why you shouldn't be able to just pick up your flatscreen monitor and go for a walk around the house, using it as a stand-alone system. It might have a touch screen, or a thumb mouse to control it, allowing many of the normal tasks to be performed. If you walk out of the house, it could dial into your computer via the Internet and just keep working wherever you go. Nice sunny day? You don't want to be stuck inside. Get some fresh air! Just take your monitor and go to work in the park. You can always tell your fax machine to forward any important faxes, as a digital image, to your screen.

You could even, to a lesser extent, access your computer with a Digital Convergence appliance that did not have the full display functionality of your computer. The desktop environment could automatically detect the limitations of your hardware and redraw or limit GUI elements to suit. Thus you could get a reasonable low resolution version of your computer on the screen of your mobile phone, or your digital camera (Kodak cameras already run enough of an OS - Digita, based on VXWorks - to allow a port of MAME, the Multi Arcade Machine Emulator). Even the low-resolution black and white LCD on that pesky DVD remote control could throw up some simplified version of the computer's User Interface.

As the entire working nature of your computer is fundamentally portable, you could not only have multiple alternative environments to suit different users, or automatically launched to suit a particular applicationn, but you could take your environment with you wherever you go. Within a few minutes you could log a borrowed computer into your own network and it would look and act exactly the way yours does, with access to your drives and your devices. Your entire virtual computer doesn't even need to exist; a server can contain hundreds of separate virtual computers, run directly over the Internet. This is already happening with Desktop.com and Cyrus' SperiOS, which offer a personal virtual desktop with storage facilities and applications that run - via Java - on-line in a browser window.

Defining the revolution

There are many battles to be fought before this will all come true. The key technology standards are not yet determined, and there is considerable competition over the parts. Certain aspects, such as XML, Java/JINI, HAVi and Bluetooth, are strong enough to be safe bets, but these are all just parts of the equation. I have yet to see a single unifying scheme that is up to the task. Many people would argue that Java and XML are as much of a unifying scheme as you need, but that misses the point of a truly networked, interoperable digital environment - the user interface paradigms are most important of all.

I think that we are likely to see a number of core open standards, with rival commercial solutions of how to bind them all together. Those solutions we will see appearing over the coming months and years, but no-one is there yet. From a technical standpoint, "Amiga Objects" may be the best all-purpose model publically described to date, but we know almost nothing of the key user interface aspects.

"The answer is simple - the Amiga got there first."

Whether one company can win a Microsoft-like dominance over the sector or whether several largely compatible rival alternatives will co-exist remains to be seen, although I'd bet it will be the latter.

Given that the Amiga does not even have a Java Virtual Machine yet, why should people looking at this new era of computing be interested in the Amiga above more modern computers? The answer is simple - the Amiga got there first. The key to success in this market will be making an interface to the network of computing devices that does what people want it to do. The lesson most companies are having the hardest time understanding is that it isn't just about broadcast any more, it's about interactivity - and I don't just mean pick-your-own-camera-angle action replays. The single biggest use of the Internet by far is e-mail, one of the Internet's most basic technologies, but the one that lets people communicate, be creative and be free.

Many people have said that Digital Convergence means the death of the personal computer. Many claimed that the invention of photography would spell the end of painting, cinema the end of the theatre, and TV the end of cinema. Instead, photography inspired new styles of painting, and TV is now used to broadcast plays to wider audiences. Each medium feeds off the others, and predicting otherwise for the Digital Convergence revolution is contrary to prior experience and to the very concepts underlying DC. Technologies which assume the Internet will be solely about broadcast will fail; those that follow the Amiga way of making technology accessible, all-inclusive and easily useable will succeed. This is our future; we only have to reach out and take it.

Andrew Korn A

Above: Is it an Ericsson mobile phone or is it a web browser?

Left: One of Nokia's concepts for an interconnected mobile communications device.

Core technologies & BUZZWORDS ...continued

separate objects, and supports temporal and spacial synchronisation of those objects. The upcoming MPEG 7 standard will offer a description scheme for multimedia data including MPEG 2 and 4 streams, which will allow interactive analysis of digital content. In theory this could allow you to define taste criteria for browsing an on-line clothing catalogue, hum a few bars of a tune you can't identify to a search engine and have it locate the original, search for a picture similar to your sketch, or e-mail everyone in your address book who sounds a bit like Richard Nixon.

Thin Client - An application which (mostly) runs on a network server. Normally software runs on your client (i.e. your desktop PC), but thin clients allow you to run just the necessary interface software on your computer or other information appliance, while the processing work of running the bulk of the application is done on another computer on the network, or over the Internet.

WAP - Wireless Application Protocol, a standard from Nokia, Ericcson, Motorola and Phone.com which defines a protocol for wireless devices, primarily mobile phones and mobile computing devices, to communicate with the Internet.

XML - short for eXtensible Mark-up Language, a complimentary system to HTML. XML uses content descriptors that allow definitions of any information medium to be passed across a network. Thus data stored in a database, for example, can be accessed through a custom designed XML compatible interface. For example you could create an automated on-line catalogue which takes stock information from a standard SQL database. As it is extensible, it is possible to define new descriptor types to suit any form of digital information - say goodbye to <font> and say hello to <video>, <a href="phone://01234 567890"> and so on.

interact !

So, are you convinced?

Does Digital Convergence fill you with technolust or do you think the entire concept lives in the bin?

We would like to hear your opinions on the subject of Digital Convergence and what part you feel it will play in the Amiga's future.

So, either write in to us using the address on page 54 or e-mail us on the address below. Either way, we'd love to hear your views.

interactive@amigactive.com

On Trial: Gateway

Gateway stand accused of doing their level best to effectively kill off the Amiga - is that entirely fair? Amiga Active's Kangaroo court puts the cow-shaped company in the dock.

During the period of Gateway's ownership, the Amiga userbase has continued to shrink and companies have left the market. We've heard plan after plan from Gateway, but all that we seem to have got from all those words is a stifled PowerPC market.

The paranoid weave elaborate tails of Microsoft sponsored conspiracies to destroy the Amiga, but more mundane accusations of Gateway "mucking things up a bit" are widespread.

Case for the Prosecution

"Nine months after the company was bought out, Amiga stated that PowerPC / 68k dual processor solutions would be a transitory solution for the Amiga, but they did not commit to PowerPC as the final processor, because the two years required to port the Amiga Operating System to PowerPC was considered too long to justify.

"Four months later at the World of Amiga show in London they announced that the processor of the next generation Amiga would be an entirely new processor. PowerPC add-on cards were just beginning to take off, and many visitors to the show had expected to purchase one. Inevitably, many of these people, now under the impression that PowerPC on the Amiga was a dead-end, did not buy a card after all.

"Meanwhile, PowerPC for the Amiga continued as a third party product with less software support than had been hoped for; a number of developers did not develop for PowerPC as they were waiting to develop for the official next generation platform."

[Defence council]: "Objection! The state of software for the Amiga PowerPC platform was seriously affected by the confusion between PowerUP and WarpUP, two incompatible rival kernels."

[The Judge]: "Sustained."

"...the two years required to port the Amiga Operating System to PowerPC was considered too long to justify."

"If I may continue, your honour, nearly a year of no visible progress later, Gateway's Amiga subsidiary was taken over by a Mr. Jim Collas, who seemed to most people to be finally moving the company in the promised direction. As a result, game licenses were paid for, developments initiated, equipment bought and marketing strategies determined, all in the assumption that Amiga would deliver the products they promised.

"Half a year later, Collas was no longer part of the company, the products due to be released in a few months were cancelled, and no information was made available to companies to change their plans in order that they might accommodate. To this date, it is still entirely unclear what the subsequent plans were or whether they would have any relevance to the plans of any Amiga company.

"In closing, I would further like to point out that had Amiga started porting their Operating System to PowerPC at the beginning, they could have had an updated version running on modern hardware already. As well giving companies a direction to follow and users the new machines they crave, Amiga would have a fast, efficient multimedia OS they could now be selling into the burgeoning Information Appliance market."

Case for the Defence

"The World of...

[Various spectators from the gallery]: "Boo! Lies! He's making it up as he goes along!"

[The Judge]: "Order, order! (bangs gavel) Silence, or I'll have the court cleared."

"The World of Amiga situation was forced on my clients by the actions of a third party, whose partnership was due to Be announced at the show, but whose last-minute actions rendered such an announcement impossible. The Amiga market demands information, and my clients did their best at very short notice. Any knock-on effects are unfortunate, but hardly my client's fault.

"In more general terms, it should be remembered that my client's responsibility is to the Gateway board and shareholders, and thus it is their duty to ensure that their work benefits these people. Nevertheless, my clients have provided an OS upgrade to the Amiga community despite serious doubts of financial viability, simply to help keep the market together."

The Verdict

"While the defence makes some valid points, it is clear to me that, had a different path been taken by Amiga, both the Amiga market and Gateway could have been better off than they are now. The court does not regard OS3.5 as a mitigating factor as a more decisive company would have shipped the product two years ago to a larger and more profitable market. Therefore, I have no choice but to find Gateway guilty of 'mucking things up a bit.'

"However, in view of the fact that there has been no indication that this road has been paved by anything other than good intentions, I will be lenient. The sentence imposed is therefore to get on with it, or bloody well give it to someone who will!

Andrew Korn

Reviews Contents

NAME: PAGESTREAM 4
DEVELOPER: SOFTLOGIK
SUPPLIER: BLITTERSOFT
TELEPHONE: +44 (0)1908 610170
COST: £169.95 (upgrade from v3.3: £59.95)
WEB SITE: http://www.blittersoft.com

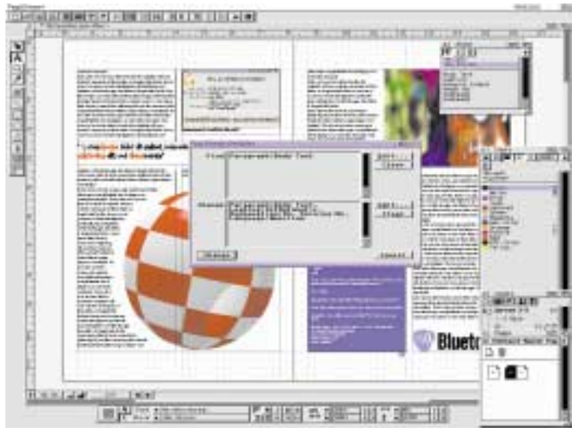
Pagestream 4

The latest version of Pagestream is upon us. Desktop publishers rejoice!

Pagestream is the only DTP package currently being developed for the Amiga. That might be a bad thing, except that Pagestream is so far ahead of any earlier competition that it really doesn't matter. Version four brings a number of enhancements, some obvious and some under the bonnet, which developers Softlogik hope will keep the program keenly competitive with market leaders like Quark Xpress and Adobe's much heralded InDesign.

Amongst the plaudits that Pagestream traditionally receives, there have usually been complaints about new releases being initially a little buggy or incomplete. The review copy of Pagestream 4 that we received still needs a few things before we can give it a rating, hence we are giving it a quick first look this month. The main thing is the lack of a manual - the review copy came with just the on-line help from Pagestream 3, which isn't much of a help in getting to know the new features of this version. We weren't too thrilled to see a requester popping up asking us to "insert volume Pagestream3:" and we couldn't get several of the new features to work properly. Without a manual to refer to we don't know whether it's the software that's at fault or ourselves.

On the other hand, this is a program full of impressive features, and it's available now. Although we couldn't really review it, we felt it was certainly worth writing a hands-on preview. As soon as we can, we will follow this up with a final in-depth review.



Above: Search and replace works not just on text but also on every attribute of that text.

Text king

Pagestream has always been good at handling text-heavy documents such as books, reports or technical papers. The introduction of a slew of new text handling features in version 4 takes this so much further that I'm seriously thinking of giving up on word processors altogether. All of the normal text editing functions are here, such as cut, copy, find and replace, but there's plenty more. There are dictionaries for multiple languages, drag and drop text handling, table of contents creation, and so on. There are loaders for ASCII, RTF and HTML as well as Amiga word processor formats such as Wordworth and Finalwriter. There's even a decent little text editor, PageLiner, particularly handy for quick changes to screen text on a slower machine.

The typographical controls outshine any word processor, as you may expect. They also do a pretty decent job of outshining most other DTP packages. Leading, kerning and so on is controlled in the usual manner, but in conjunction with the extremely clever style sheet functions and the ability to use the find and replace function, they become even more useful. You can define rules in your library of default text styles, and vary them by defining chapters with alternative rules for the default style if you so choose. Exceptions can be defined before and after paragraphs, and the tracking and kerning of letter pairs can be tweaked at will. Improvements to the kerning include optical 'best look' kerning rules (not quite as sophisticated as InDesign's multi-line optical kerning) and hanging punctuation.

What's new?

- Automatic before and after paragraph rules.
- Bookmarks.
- Chapter level styletags.
- Collect for output.
- Configurable FPO size.
- Definable Kerning Pairs.
- Definable Tracking Tables.
- Drag & Drop text.
- Find & Replace special characters, wild cards and text attributes.
- Colour Trapping.
- HTML text import/export
- In situ mask.
- Lasso select
- Layers
- Multilevel chapter/page naming
- Multiple copy printing on a single page
- Native Indexing
- Native signature printing
- Optical alignment
- Paragraph numbering
- PDF export
- Table of contents / index generation
- Table of figures generation.
- True smallcaps.

Above: There are plenty of kerning tools to ensure that your letters are where you want them!

Similarly, hyphenation is not just a simple on/off, but a set of rules that you can edit and apply across a document or to specific pieces of text. This, along with font type, tabulation, indentation, kerning, tracking, leading, colour, style, font, size and style are all searchable and replaceable attributes. Thus you could search through a document for all 14 point Helvetica text with no kerning and switch it to 12 point bold with auto kerning and soft hyphenation of words with more that 4 characters before the hyphen and 3 after it. Phew!

The handling of bulk documents is a strong feature of Pagestream 4. Use of proper "heading" and "body" text style tags allows Pagestream to find sections within a document and create its own table of contents for you. All you need to do is make sure all your chapter headings use a heading style, and selecting the menu option will allow you to insert a table of contents into the document straight away. A simple to use bookmarking system allows you to move around the pages very easily, locating a particular piece of text, while you can make the process similarly easy for your readers by setting index points and generating an index automatically. This could be a little tedious for a long document as you need to select an entry in a submenu for which there is no short cut, but a good idea none the less. Pagestream can even generate an index of figures and illustrations automatically.

Looking good?

On the visual side, Pagestream has always been rather better at handling graphics formats than most, internally supporting GIF, JPEG, BMP, PCX, Pict and Macpaint formats, as well as the more traditional TIFF and EPS files and Amiga native formats such as Prodraw and IFF. Past experience has shown that Pagestream can sometimes print an image poorly for no apparent reason; this is probably due to trapping problems at the output stage which the new trapping control should go at least some way to fixing.

Other aspects of page output have been modified too. One thing that will be popular amongst users who produce brochures, magazines, books, reports or other long documents in a saddle stitch or stapled format will be pleased to know that it can now handle native page signatures. This means that if you had a 64 page document and you wanted to print it out on A3 for a folded A4 document, Pagestream will automatically print the 1st and 64th pages, the 2nd and 63rd, and so on. Similarly, Pagestream will now print multiple copies of the same page on a single sheet. This is very useful when you want to save paper on a small printout - the classic use would be to print a number of business cards on a single sheet. Normally you would design your card, copy the entire document and paste it multiple times on your sheet. This can be annoying if you need to change anything, as you would have to remember to edit it on every instance of the card. Pagestream allows you to keep a single version of the document and will print it several times on the page.

Documents away!

Pagestream is certainly by far and away the most advanced program on the Amiga for output. It has always supported a massive range of printers and has a generally very good output quality. The collection of drivers for inkjet and other non-postcript printers seems a little out of date, missing 1440dpi modes for Epson Stylus printers, for instance, but postscript printers of all sorts can be used with a massive selection of around 350 PPD (Postscript Printer Description) files.

Other ways of outputting documents are supported, including saving the page as a Postscript or EPS (Encapsulated Post Script) document, as a native Pagestream document, or as an IFF image. A new addition here is the "Collect for Output" option, an old Quark favourite that made them friends in the printing trade. Basically, this checks the document to figure out all the files that are needed to recreate them and saves them to one place, ensuring that the files you send to your printer include everything that they need. A new and potentially very important output method in version 4 is native PDF output, although so far we have been unable to get that to actually work!

Pending the normal run of tweaks and patches, and assuming that the manual is as good as it has been in the past (a manual is very important for a program of this complexity), Pagestream 4 is looking set to get a very high score when we review it. Of course we'll take the time to look at what improvements have happened under the bonnet, too - colour reproduction, always the biggest failing of Pagestream, may turn out to be much improved. All in all, congratulations are due to one man coding miracle Deron Kazmaeir, who has not only managed to write Pagestream for Amiga, PC and Mac single handedly, but has managed to keep it competitive with the best Quark or Adobe have to offer.

Expect a full, in-depth review of Pagestream 4 in a future issue.

Andrew Korn

NAME: DIGITAL ALMANAC
DEVELOPER: ACHIM STEGEMANN
SUPPLIER: SCHATZTRUHE
TELEPHONE: +49 (0)201 788778
COST: 69 DM (approx. £24)
WEBSITE: http://www.schatztruhe.de

Digital Almanac

ACTIVE GOLD AA ACTIVE GOLD

The new CD version of this astronomy package knows where to find 16 million stars.

In spite of its name, Digital Almanac is not an almanac but an astronomy program, in the tradition of Distant Suns. Originally a shareware program, a commercial CD version is now being distributed by Stefan Ossowski's Schatztruhe and should be available from the usual dealers in the UK. The full program is still available on Aminet (with restrictions if run without a keyfile), but without the big 250 Megabyte Hubble star catalog which is on the CD. Even the Aminet version is quite a big download.

The main purpose of an astronomy program is to help you to name the stars and planets that you can see, either with the naked eye or with binoculars or a telescope. To do this, it draws a map of the starry sky as seen from a particular place at a particular time. Usually these would be your current place and time.

The program needs a list of stars with their positions and a fast way to calculate where they should be on the screen display. For naked-eye viewing, only a few thousand stars are needed, but if you want to show all the stars that you could see with a big telescope, you will need a catalogue of several million stars. The program then needs to work fast if the display is to appear in a reasonable time.

Digital Almanac is partly written in assembler for maximum speed, and it automatically recognises the type of 68k processor you are using. Even so, if you enable display of all the possible 16 million stars, it will take a couple of minutes to draw the screen. With a more sensible setting (you can only see the dimmer stars with a very powerful telescope) the rendering time on a 68040 machine is about 15 seconds.

As well as being fast, an astronomy program must be accurate. There are many small effects such as the motion of the Earth's axis which have to be allowed for. The author of Digital Almanac, Achim Stegemann, has clearly worked hard to make all the calculations extremely accurate. The smaller effects can be optionally applied or not.

There is a good AmigaGuide manual, but a printable version should also have been provided, either in plain text or PDF format.

The Sky on Screen

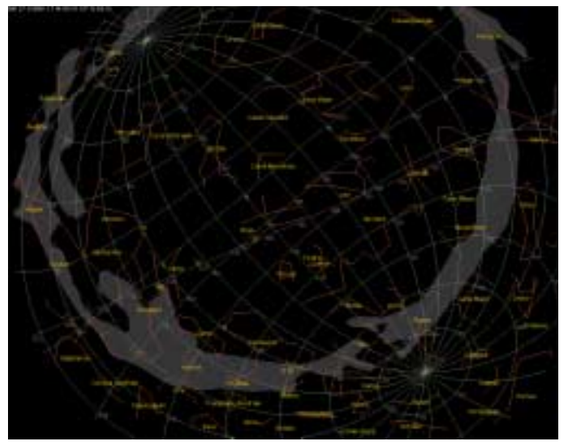
Old favorite Distant Suns never caught up fully with AmigaOS 3, and doesn't support graphics cards. It does have a few refinements that the newer programs lack, such as adding various amounts of sky light or light pollution to the display, and the big Hubble GSC star catalogue is in its original format (which could be useful if you want to access it for some program of your own). For users who want a modern, MUI-based astronomy program, Digital Almanac completely replaces Distant Suns. It works perfectly under OS3.5 and CyberGraphX.

Don't expect the display from a program to look like a photograph from a telescope. The stars and galaxies are all shown in their correct positions, but the clouds of gas which make real photos look so spectacular are missing.

There is a large collection of images of galaxies (some of them a bit grey - the dynamic range could do with adjustment), and these can be made to appear to scale at their proper places, but you see a small rectangular image on the screen, with sharp edges. This will be perfectly OK if you want to identify a galaxy that you can see through a telescope, but the screen display would need some work if it was to be used as a background for a rendering of a space craft. Actual photos are better for this.

The brightness of a star or other celestial object is known as its magnitude. The bigger the magnitude, the dimmer the object. In Digital almanac, the stars can be displayed either as single pixels of various shades of grey (indicating their magnitude), or as small circles of various sizes. They can also be shown in colours roughly matching the actual colours - cooler stars are red, hotter ones are blue. The horizon can be shown too. The equatorial grid, for instance, shows the pole star at its centre.

If everything is displayed at once on a small screen, the display can get confusing. Most of the testing was done on an 8-bit 1024 by 768 screen, and on a large monitor at this resolution a great deal of information could be shown clearly. The program seems to have been designed on an 800 by 600 screen, but it is usable on PAL Hi-Res Laced. In this case it would be better to use a slightly larger font for the labels; there is no information about font changes in the manual, however.



Below: Find your way around the constellations.

"...at this resolution a great deal of information could be shown clearly."

There are a few problems with the screen display. Firstly, the screen has no depth gadget in the top right hand corner. This is a standard Amiga feature and should not have been omitted: it is quite annoying when one is flipping through a stack of screens with the mouse to have to stop and use the keyboard for one of them. Also the useful Screens Menu, a part of the MCP kit, does not work from the Digital Almanac screen, and the Digital Almanac screen has no name.

A second problem is that the menus come up in the standard black on white. In Distant Suns, the menus are on a dull green background, which helps the user to maintain dark adaptation when comparing the computer display to an actual night sky. Here, the white is too glary and will take the edge off the dark adaptation. Fiddling around with the MUI settings did not seem to make any difference to the program screen.

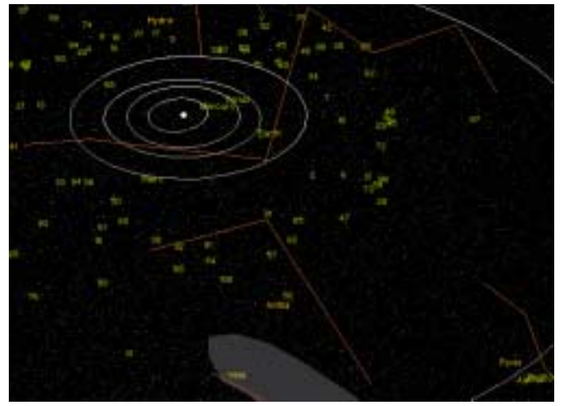
Control Your Telescope

Opening the telescope window allows you to aim the program in various directions and zoom in and out. A centre button restores the default view. If you are using a telescope, you would want to point the program and the telescope in the same direction. Nowadays, the more expensive telescope models can be controlled from a computer.

Programs for other platforms such as "The Sky" (for PC and MAC) allow you to control a suitable telescope directly from the program, and provide drivers for many models of telescope. These send commands out of (usually) the serial port, giving the co-ordinates of the centre of the view. The telescope can then point itself to the same place in the sky. Digital Almanac can do this too, but the support consists of one example driver written in C, from which you are expected to write your own. This is not very helpful, but perhaps realistic considering that the price of the Amiga program is much lower.

An obvious improvement would be to also provide example code in an easier language such a ARexx or Blitz. I think at least a few actual examples of working drivers for common models should be written, and their source code provided. That would make it not too hard for a user who is not a regular programmer to adapt one for another model. Most users will need only one or two drivers.

Above: Pick anywhere on the world map to see the stars from that point.



Above: See the planets turning in their orbits.

Left: This control panel aims your view - and your telescope too if you can write a driver for it.

On the other hand, this is the only Amiga astronomy program to have any telescope support at all, and this will surely improve in future versions.

Is it worth it?

This is the best astronomy program I have seen so far on the Amiga. Any criticisms are small, given the quality of the whole program. Digital Universe is also good, and is very similar, but has fewer features and a higher price. Digital Almanac is also fully competitive with PC programs of similar price, but the much more expensive "The Sky" (which has reached version 5) has some advantages. This is an impressive achievement for a single programmer.

Don Cox A

Digital Almanac 8/10

SYSTEM: Any Amiga with AGA, OS3.0, 68020 and FPU, hard drive, MUI and plenty of fast RAM.

SUMMARY: A comprehensive and well written program at a reasonable price, although a few points could be improved in later versions.

Views and animations

Watch the universe working like clockwork! There are three main views: local, planetarium or orrery. An orrery is a working model of the solar system, so this is a view of the Sun and planets from outside - ideal for animation.

The motion of the planets can be viewed on screen by setting a suitable time interval, and is fascinating to watch. The motion can also be saved as an animation in IFF-ANIM, Quicktime or MPEG formats.

Unfortunately, you can't directly set the size of the animation frames. A frame is always taken to be the same as the whole screen. You can change the screen mode, but this isn't the most convenient solution. It is also impossible to save out a sequence of individual frames, as is needed by video cards such as the VLab Motion.

NAME: GOLDED STUDIO 6
DEVELOPER: DIETMAR EILERT
SUPPLIER: ALIVE MEDIASOFT
TELEPHONE: +44 (0)1623 467579
COST: £34.99
WEB SITE: http://members.tripod.com/golded/

GoldEd Studio 6

Question: When is a program that processes words not a word processor?

Answer: When it's GoldEd! Dietmar Eilert never intended his program to be a word processor in the traditional sense, because it isn't a paragraph-based editor. You shouldn't really use it for writing letters or magazine articles, although you can, as I'm doing now *(well next time, don't leave me to remove all the line breaks please! -ed.) (*wink* -desk Ed.)*. Instead, GoldEd is a line-based editor ideally suited to the writing of scripts and HTML (the underlying code of web pages) and acts as an ideal companion to the computer programmer - the very situation for which it was originally intended.

GoldEd has been in development for, ooh, a long time. Years. The differences between it and, for example, CygnusEd is that Dietmar has been actively developing his program since the start, and is still doing so. Hence the new, improved GoldEd Studio, version six, that we are now looking at.

With technical support and updates available to registered users via the Internet, the GoldEd distribution now takes up 119 Megabytes of a CD, thanks mainly to the large selection of plug-ins which accompany the main program - no fewer than 18 in total (see boxout, below).

Multi-skilled

Were GoldEd to be merely a word processor, suited to one function and one function alone - even if it were to do it flawlessly - it wouldn't be here today. Where GoldEd shines is in doing more than one thing, and not falling over on any of them. Load up a text file, and it's a basic text editor, albeit one with a lot of power hidden behind the menus. Click a button in the toolbar and the GUI re-shapes itself to provide you with more buttons for spell-checking or using a thesaurus. Click again (or load another type of file after configuring GoldEd to recognise another filename extension) and you've got a whole host of toolbars to help you write web pages or installation scripts for your latest programs.

Syntax highlighting is provided in many of GoldEd's modes, allowing you to see quickly and easily where a tag ends in your HTML, where a loop starts in your installation script or where the comments are in your latest program. This isn't just about looking pretty - it's extremely useful when you're trying to find a mistake. Not properly terminating a comment, for example, will result in anything following on from the comment remaining in the same colour, so you see immediately that you've gone wrong. This cuts down on development time, and also gives you an incentive to lay out your code (be it C or HTML) nice and neatly.

GoldEd also supports other minor, but time saving, shortcuts. Drag and drop allows you to drop a file into GoldEd's window to open it up in a new window for editing. Iconification leaves GoldEd's icon on your desktop, and you can drag and drop onto this as well. When you install the package, you'll be asked where to put (and what name to give to) the starter. This is a tiny program which can live in your C: directory (even stay resident in memory, i.e. load itself into RAM each time you boot for faster access) and give you a quick route to GoldEd in the shell, by typing "GEd s:user-startup" rather than "Work:Word/Golded/Golded s:user-startup" for example. These are all relatively minor features, but they all add up, and will save you a lot of time if you use GoldEd regularly.

The Gold is not enough?

At the end of the day, GoldEd isn't intended to be a straightforward text editor in the "word processor" sense. However, it is perfectly usable as such if all you need to write are short letters, articles or essays. I use it over other "true" word processors such as Wordworth for this very task, if only because GoldEd is quick to load and really easy to use.

Integration with other systems is therefore the only sore point. Saving a file from GoldEd saves it with line breaks, the native Amiga text file format. Other platforms such as the Mac frown on line breaks, but GoldEd does have a "NOLF" option to its save command. Using this, it's quite easy for me to save this article without line breaks and send it to ***Amiga Active***'s ruthless barbarian of an Editor (that comment won't make the final article unchanged, I'll bet) *(yes it will, if only so I can point out that you forgot to do so, leaving me to delete all the line breaks by hand. Grrr! -ed.)* for his perusal on whichever computer he happens to have in front of him at the time, and for it to be flowed straight into the final page in Quark Xpress without the designer having to delete all the line feeds.

Implementing paragraph-based editing natively into GoldEd wouldn't be easy - if it was, Dietmar would have done it by now. Asking for such a feature would be like expecting multiview to display PDFs. That's not the job it was designed for, although a lot of people would be extremely happy if it did.

For integration with a programming language, web page authoring, writing amigaguides and creating installer scripts, no other package comes close to offering the features of GoldEd. Not only can you create your next program with its assistance, you can produce the documentation for it, design a web page about it (spell-checking and enhancing your vocabulary with the thesaurus as you go along) and write the installer, all in the one package. If that isn't worthy of a Gold award, I don't know what is.

David Stroud A

Above: The GoldEd web site, which offers support and upgrades for registered users.

"...GoldEd is quick to load and really easy to use..."

Custom Gold

GoldEd is more than first meets the eye - literally. You could spend weeks customising toolbars, menu items and the whole appearance of the package.

Selecting the menu option 'Extras->Customize' allows you to configure GoldEd to your heart's content. Each filetype you have configured GoldEd to recognise (new ones can be added at will) can sport a GoldEd front-end with custom menus and toolbars.


It's just a powerful, yet easy-to-use text editor....


...which can also help you write AmigaGuide files.


It will help you with your spelling if you kneed it too...


...and suggest alternatives for often-used verbiage.


Creating web pages is spider's play with Webworld.


GoldEd will recognise and colour your user-startup.


It will help you write those complicated programs...


...and it will ease the pain of creating installer scripts.

GoldEd Studio 6 — 9/10

SYSTEM: OS 3.0, 68020, 2MB RAM. 68030, 4-16MB RAM and a graphics card recommended.

SUMMARY: A first class, multi-talented product which is still actively developed.

Chips with that?

Some form of fried potato product is about the only thing that doesn't come as part of GoldEd's add-on collection. There are plug-ins aplenty, and if - for any reason - there isn't one to suit you, you can always develop your own...

- Webworld
- AmigaGuide publisher
- Roget's Thesaurus
- Support for StormC
- Support for SAS/C
- Support for other C compilers
- Support for Assembler
- Scripting
- Fax
- Support for Microdot
- Support for Thor
- Joyce Spell Checking
- PCL Printing utility
- Revision Control System
- Installer Wizard
- Add-On Wrapper
- Text Register
- Minesweeper

NAME: DEVELOPER CD 2.1
DEVELOPER: HAAGE & PARTNER
SUPPLIER: BLITTERSOFT
TELEPHONE: +44 (0) 1908 610170
COST: £TBA
WEBSITE: http://www.blittersoft.com

Amiga Developer CD 2.1

...the Full Monty?

We take a look at the new developer CD to find out why it reveals the Amiga in all its nakedness.

If there was one thing that Commodore ever did right, it was supporting the developers by making sure that the relevant material was available to those that needed it - and it is a good thing to see this tradition continued today.

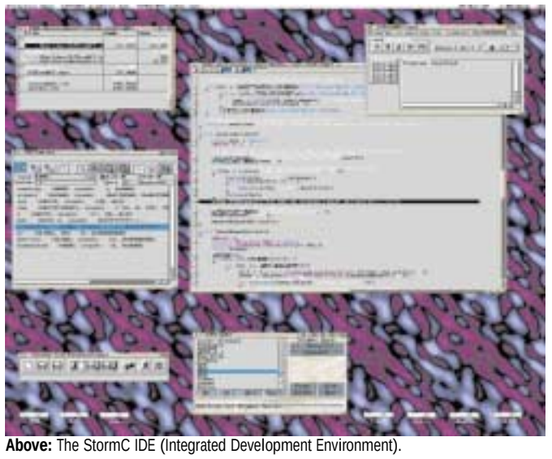
The developers packages, known as Native Developers Update Kits (NDUKs), have always been a mine of information about the inner workings of the Amiga, and this new one from Haage & Partner is no exception, although it does stand way ahead of any previous compilation before it for one unique reason.

This time, not only have the official programming books, the RKRM's (Rom Kernel Reference Manuals), been included in both text and HTML formats, but the CD now sports its very own programming environment too.

So what's to see on the new CD? Well, included in the hefty 258 Megabytes of data is a comprehensive collection of all the official documents detailing the inner workings of the various system libraries. Called AutoDocs (because they are automatically created from the comments buried in the source code), these files alone are essential for anyone wishing to dig into the inner workings of AmigaOS. You also have a choice of how you want to read them: You can look at the AmigaGuide versions with Multiview, or the HTML versions in your favourite browser. Both offer extensive hypertext linking to other relevant or similar sections of the aitodocs, making navigation of these heavyweight files simple and effective.

RKRM Library

As previously mentioned, the official books produced to assist programmers and explain some extra features of the"system," called the Amiga ROM Kernel Reference Manuals, are also included. This four-book set covers 'Amiga ROM Kernel reference Manual: Includes and Autodocs' - an alphabetically organised reverence of ROM function Summaries and Amiga system include files; 'Amiga ROM Kernel Manual: Libraries' - a work consisting of tutorial-style Chapters on the use of each Amiga system library; 'Amiga Hardware Reference Manual' - a detailed description of the Amiga's hardware components; and 'Amiga ROM Kernel Reference Manual: Devices' - offering tutorial-style examples and chapters covering all the Amiga Exec level devices for input, output and control. If you could never get your hands on these books in the past, this part of the CD will be very welcome.



Above: The StormC IDE (Integrated Development Environment).

"...it starts to become of general interest to anyone seeking knowledge of the finer points of the Amiga...

As with all previous compilations, the 'system includes' - code fragments designed to be used with the compiler of your choice - are here too. This new CD offers all the latest includes and autodocs covering OS3.5 (as well as every previous release of the NDUK). These are also provided in both AmigaGuide and HTML flavours allowing for easy cross-referencing between various documents.

The CD also includes many megabytes of example sources, a lot from the official documentation and many from 3rd parties. For most people, these will form an essential part of the CD. More than 25MB of source and example files (many of which have never been made freely available before) form an excellent library of reference source code covering virtually every topic. This not just limited to desktop systems either, as there are extensive sections devoted to the CD32 and CDTV, which offer many of the original development tools and sources for creating CDs for these systems.

Also on the CD are some postings that were originally made to 'Amiga Mail,' a closed electronic forum where registered Commodore developers could exchange information with the a committee of people set up to serve the developers called CATS (Commodore-Amiga Technical Support). These documents have never been made publically available before.

A group of third party contributions have also been included in this compilation, an extra bonus being Cloanto's PPaint6.4, which was itself originally worth more than the price of this CD. Other contributors, such as Thomas Richter, Richard Koerber, Ralph Babel and Olaf Barthel have included some great debugging tools and libraries, while Nordic Global, Interworks and Heinz Wrobel have given a heap of example sources and tools associated with networking.

Angela Schmidt contributed a unregistered version of MakeCD, while Carsten Schlote submitted an updated 68060 library that works with the MMU library also included on the CD. Some developer kits from leading API packages such as CyberGraphx and Picasso96 also make an appearance, as does the Miami SDK (Software Developer Kit) by Holger Kruse.

Bertie Bonus

The big give-away, and the reason that this CD is unique, is that Haage & Partner have included a full version of their development environment, StormC v3. This is the first time that a product such as this has been included on a Software Developer Kit, giving the user all necessary tools to start developing Amiga software and instantly making this compilation the most complete of all Amiga developers CDs.

StormC is nothing revolutionary in itself, but it is a joy to use. The Integrated Development Environment makes using this package simple, and the embedded source level debugger and analyzer are wonderful. This has to be **the** package for anyone who prefers the integrated approach rather than a CLI based environment such as SAS/C.

As if this wasn't enough, all of the original example sources from the RKRMs accompany StormC in the form of project files, making it a simple matter of loading them straight into StormC, compiling and running. Truly beautiful.

Considering the time restraints for producing this CD, Haage & Partner have done a wonderful job to collect and sort the multitude of example and tutorial files included within, and convert them to the various formats. Given more time, the HTML navigation of the CD could have been much better thought out, but the information contained is so extensive that it starts to become of general interest to anyone seeking further knowledge of the finer points of the Amiga and its Operating System.

Simon Archer

More Storm Goodies

There are other delights that can be used alongside StormC, including various 'plugins' like the StormMesa kit, an OpenGL compatible developer kit, and the WarpUp archives for programming those elusive PowerPC cards with the WarpUp kernel.

Both of these are available for download from Haage & Partner's web site (www.haage-partner.com). Also just recently released is the new PowerASM, which will work either as an integrated part of StormC or as a stand-alone PowerPC assembler. With support like this, there isn't a lot you can't do with StormC, but to make it even more enjoyable, it will invisibly interface with GoldEd (version 4 and up) from Dietmar Eilert (see the separate review of GoldEd this issue, starting on page 28). Although GoldED is not included on this CD, if you are already a registered user, just activate the tooltype 'GOLDED=TRUE' in the StormCPP icon (in the StormC: assign). GoldEd gives you much more than the functionality of StormEd, although you will require the StormC environment for GoldEd.

Developer CD 2.1 8/10

SYSTEM: Any Amiga.

SUMMARY: The latest addition to the plethora of developer material, with plenty of general interest. Navigation could be better, but overall a remarkable achievement given the time constraints.

There's a Storm Brewing...

Unlike compilers intended to be used from the CLI (Command Line Interface), StormC boasts a fully-featured Integrated Development Environment (IDE) which distances the user from the clumsiness of command line parameters. StormC comes with its own editor, which supports some useful functions such as syntax highlighting. This makes it easy to detect spelling or typing mistakes, which may otherwise go unnoticed and cause compiler errors. With a built-in dictionary of library calls, functions, variable types, preproccessor command and standard C symbols, StormC's editor can change the colour of the text, highlighting it to match the kind of command the cursor is currently over. The colours used are definable by the user, as are the keywords that are recognised. Fonts and file attributes, like backups and autosaves, are also adjustable from the editor settings.

One of the most powerful parts of this IDE is the source level debugger, the heart of the StormC package, which makes finding those hard-to-track down problems a breeze. Coupled with the variable interrogator, things really start to become easy. Another part that shows off the integration of StormC perfectly is the error output window. Any errors encountered during the compiling process are shown here - as are any warnings - and clicking with the mouse on the line showing the error jumps you straight to the same line in the editor, ready to correct the mistake. Other parts of the IDE are the profiler (for testing various sections of code), a modules window (showing all separate modules and allowing easy selection), and the hex editor and dissassembler.

This is by no means an original idea; SAS/C had its own versions - CodeProbe, SProf and the editor SE, but the level of integration here in StormC is excellent for the beginner and the experienced programmer alike.

Top Gear

Know of a snazzy piece of kit you think every Amiga owner should have? Tell us about it!

E-mail top.gear@amigactive.com with the necessary details or write to our top gear testers at: Top Gear, Amiga Active Magazine, Systems House, 3-11 Spring Road, Bournemouth BH1 4PZ.

It's small, flat, loud and trendy... it's this month's Top Gear!

Small Balls

It's tiny, grey and comes in a little black pouch. No, it's not a sick joke - it's the PawsTrac micro trackball from Silent Paw Productions over the pond in the good ol' US-of-A.

America have always had a reputation for doing everything "big" - food, clothes, cars, basketball players - everything's bigger than common sense tells you it needs to be.

Perhaps that's why this little device ended up over here...

Unassuming, the PawsTrac not only looks fragile, it feels rather insubstantial too. The tiny little black ball rattles around between the three tiny little grey buttons, and because this device is so small, you literally cannot get to grips with it.

More suited to the female Amiga user or the younger whizzkid with petite digits, the PawsTrac sports one minor extravagance - a red light which glows feebly when you press the middle button - a button which doesn't behave like a third mouse button, but as a rather unconvincing extension to the left mousebutton. Clicked once, it's like holding down the left mousebutton - moving the ball shows a drag-selection box, and the red light in the corner of the device illuminates to let you know you've pressed the button. That's it.

Apologies if I'm making the PawsTrac sound like a rather naff input device, but unless you're dainty with a light touch yourself, you'll quickly become frustrated with the PawsTrac's stodgy buttons and diminuitive dimensions (and crush it by slamming your fist down if you're not careful). Dangled from the edge of the desk, it would probably come in more useful for the cat to play with. Ah, maybe *that's* why they call it the PawsTrac...

Product: PawsTrac micro trackball.
Cost: £9.95.
Contact: Blittersoft (01908 610170).

Right: Put your hand on the page... the PawsTrac micro trackball, reproduced here at approximately actual size for your convenience.

Sounds Flat?

With the addition of many peripherals to the average Amiga user's setup, there's not going to be a lot of room left on your desk for your pencil-holders or photos of loved ones - so how about some ultra-thin speakers you can mount on the side of you monitor or stand on your desk which have a nice small footprint?

Presenting Real Panel. Two speakers, three watts and just four millimetres thick thanks to DML (Distributed Mode Loudspeaker) technology from NXT, a company who have been developing flat-speaker technology for several years.

They may look rather weedy in comparison to your average desktop speaker setup, but don't judge a book by its cover: the speaker panels themselves measure 140x125mm and each provide three watts (RMS rating) of power. Despite having a slightly inferior frequency response to other, boxier speaker systems (300Hz low range response compared to the more common 20Hz), the separate amplifier / subwoofer unit of the traditional box-shaped variety takes care of the lower frequency ranges with ease, and because it's a separate bass unit, it doesn't have to be placed anywhere specific, so you can leave it tucked away under your desk or behind your monitor.

In use, the Real Panel speakers shape up well to their counterparts, prividing crisp, clear sound and well-defined bass - the fact that they use new technology only adds to the allure of these modern, lightweight units.

Product: Real Panel speakers
Cost: Phone for details
Contact: Icon (01202) 296292

Making the most of OS 3.5

AmigaOS 3.5 has finally arrived, with many advances and a few unfamiliar foibles. We look at how you can get the most from the new Operating System.

After five years of waiting, we finally have an upgraded operating system for our Amigas. The long gap has several consequences when it comes to eventually making this step forward. Firstly, many Amiga users have never performed a full OS upgrade before; we're into new territory. Secondly, the lack of official updates has resulted in a plethora of third party system enhancements, from system-legal commodities to outright hacks. This means that no two Amigas are alike, and writing an upgrade installation to suit all alternatives is simply not possible. If you have a heavily modified system, it's safest to either remove as many of the additions as possible, or install from scratch on a separate partition. Installing from scratch also gives an opportunity to clear out much of the dead wood that clutters up any well used hard drive.

If you install over an existing boot partition, make sure that you back it up first, and that you have a bootable disk containing the software necessary to restore your backup, just in case.... I'm not trying to be alarmist - the installation goes smoothly for most people, but installing an OS upgrade is totally different from any other software. If your Word Processor installation goes wrong, it won't stop anything but your Word Processor from working. If your OS installation goes wrong, you need to be able to revert to your previous set-up. Backing up your current system can be as simple as dragging your boot disk's icon into the window of another partition to create a copy of all files in a drawer. Restoring is then a matter of booting from a standard Workbench floppy and copying them back.

Before beginning the installation, read the support FAQ in the Magazine/OS35 drawer of this month's AACD. It would be worth printing it, so you have a hard copy to hand whenever you may need it. You must have a full OS 3.1 before installing OS 3.5. If you need to change the Kickstart chips, do this first. Install OS 3.1 from the CD, making sure you backup any special 68040.library used by your accelerator.

"If you install over an existing boot partition, make sure you back it up..."

The OS 3.5 installation involves several steps. The first copies a few essential files over and reboots. At this point, anyone using Directory Opus as Workbench may feel the onset of panic as their Amiga boots into a standard Workbench. Don't worry. After booting, you may then install the rest of the Workbench and OS software. Opus users can now retrieve their workbench by opening a shell, typing these lines and rebooting:

```
delete C:LoadWB_old
rename C:LoadWB C:LoadWB_old
copy C:LoadDB C:LoadWB CLONE
```

PowerPC users should now install the PowerPC software, people without current Internet software can run the Internet section of the installer, and everyone should run the section that creates an Emergency Disk. This disk mounts your CD-ROM and boots from the OS 3.5 CD, enabling reinstallation in the event of a disaster. Put it somewhere safe, but not so safe that you can't find it when you need it.

If you have a problem booting after the upgrade, try disabling the ROM updates. By default, SetPatch updates scsi.device and FastFileSystem and then reboots. Some four-way IDE splitters don't work correctly with the new scsi.device, so after the reboot things either hang or your system will just keep rebooting. The solution is to alter the SetPatch line of startup-sequence to read:

```
SetPatch QUIET SKIPROMUPDATES "scsi.device"
```

A slightly more brute force approach is to remove the file containing the update information, "DEVS:AmigaOS ROM Update". This disables the FastFileSystem update too.

Icon see clearly now...

The most obvious change with 3.5 is the icon system. The new ColorIcons offer the advantages of

Above: New and Improved Amiga OS3.5 - now with added whitener!

Above: RAWBinfo, a replacement for the standard Icon Information window. It replaces and enhances the original by being dropped into WBStartup.

Replace your ROMs with care!

"Static may be bad for chips, but mains electricity is bad for people."

If you're upgrading from OS 3.0, you need to replace the Kickstart ROMs before installing the OS 3.1 software. There are a few precautions you should take, both for the safety of your Amiga and yourself.

Static electricity is the enemy of all IC (Integrated Circuit) chips; you can build up many thousands of volts just by walking across a carpet. Touching your new ROM chips now would instantly transform them into useless ornaments.

Carry out the replacement operation with care, and work near some earthed metal, such as a radiator, touching it before handling any components. This will get rid of any static you may have built up.

Do not earth yourself when working with electrical equipment (except by using a proper static discharge strap) as you would provide an easy, and painful, path to earth for any stored charge in components you touch. Static may be bad for chips, but mains electricity is bad for people. Make sure that you have disconnected your Amiga completely from the mains before poking around inside it. Don't just switch it off; remove the power lead entirely.

One lump or two?

A1200s, A3000s and A4000s have two ROM chips, other Amigas have one. The chips should come with instructions on how to change them. The main rule is to be patient and careful. Note which way round the original chips were fitted and put the new ones in the same way round. Mixing up the two chips will do no harm, (your Amiga just won't boot) but putting them in the wrong way round can fry the chips' insides.

The A1200's ROM sockets have one more pair of holes than the chips have pins. Make a note of which holes should be left empty before you jump in and pull out the existing chips; putting the ROMs in the wrong holes will result in a rather unpleasant "burnt ROM" smell (we hope you never find out what this is like) wafting from your Amiga when you turn it on, resulting in a useless Amiga and a few days wait whilst you wait for another pair to be delivered at your (further) expense.

If you have a digital camera, a good idea is to take a few pictures of the existing ROMs in their sockets. You can use the camera's preview screen to check the correct orientation of the chips whenever you need to during the installation process, and a photo (or a sketch, should you not have a digital camera to hand) will help you to replace the original ROMs in the correct place and orientation should you have to.

If this makes changing your Amiga's ROMs sound like something best undertaken with a great deal of care and trepidation, good. That's the message we're trying to get across.

The job is very simple to do if you are careful, but carelessness when installing chips can be far more costly than carelessness installing software. If in doubt, contact your friendly Amiga dealer and ask for advice, or at least some instructions with your new ROMs when you order them in the first place. Take care!

"OS 3.5 has an option to use Fast RAM for icons, but there's no switch for it..."

NewIcons without the speed penalty. The installer will have copied the new icons for some system files; other icons will need changing manually. If you already use NewIcons, there are two fairly painless ways of doing this. There is a ConvertIcons script in the Contribution/Converter-Scripts drawer of the OS 3.5 CD. This uses various commands to convert the different icon types (NewIcons, MagicWB and standard icons) to ColorIcons, but it has a couple of limitations. An alternative is ProcessIcon, in the Utilities drawer of AACD04. ProcessIcon has the advantage that it can convert an icon that doesn't have an associated file, such as the default icons found in ENVARC:sys and program AppIcons. The NewIcons patch should be removed from user-startup, as it does nothing with OS 3.5.

If you have a graphics card and previously used NewIcons, you may have noticed how your icons have started using Chip RAM again. OS 3.5 has an option to use Fast RAM for icons, but there's no switch for it in any of the preferences programs. However, there are a couple of programs that will enable this option for you, WBCtrl and TweakWB. See the separate boxout (below) on these programs for details.

NewIcons came with DefIcons, to give a much better range of default icons for iconless files. This doesn't work with OS 3.5, but there is now a newer and better DefIcons. This works in much the same way as the previous DefIcons with one important addition. DefIcons has a preferences editor, giving the user full control over filetype recognition and allowing the easy addition of new filetypes as they emerge. It doesn't come with a set of default icons though. You can use NewIcons' default icons, which will already be in your ENVARC:sys drawer if you installed NewIcons previously. Alternatively, there is a set of default icons in the new GlowIcon style in the Magazine/OS35/NewGlowIcons drawer of the CD. You may find yourself running out of free pens when using 256 colour icons, even with a 16 bit Workbench screen. If this happens, reduce the quality setting in Workbench Prefs from 'Best' to 'Good.'

Left: It would be a good idea to read the FAQ on this month's Cover CD before installing OS3.5. It may make the process that little bit easier...

What works and what doesn't

Very few programs fail completely with OS 3.5, although many previously useful enhancements can now be removed. If you run a multifunction commodity such as MCP or MultiCX, disable it before installing 3.5. After installation, restart the program for Workbench or a shell; don't put it in WBStartup or user-startup yet. Now turn off most of the functions, and save the settings. If all works well, put it in startup and gradually re-enable the settings you used before, except for those that are no longer required. For example, OS 3.5 now supports RAmiga-C/V/X for using the clipboard within string gadgets, so any patches for this are no longer needed. Patches to fix bugs in earlier OS versions, such as PatchOpenWB and PAtchRGB32, should be removed or disabled. If you used MCP's Screen Manager, you may find this now crashes when attempting to promote a screen. The only safe solution is to use another screen promotor, such as ModePro.

Be particularly careful about any functions that patch the GUI, such as Urohack, SysIHack, Visual Prefs and Birdie. They should work, and I use the latter two with no problems, but it's best to disable such patches until you know your OS 3.5 system is working well.

There are two popular Workbench enhancements that don't work with OS 3.5: ARQ and PowerWB. Both of these had to be implemented in a somewhat hacky way, so it's hardly surprising. ARQ is easy to replace - just use ReqAttack instead. This is actually far more powerful than ARQ and allows a much greater level of configuration, including easy replacement of the button images and requester animations with whatever you prefer.

PowerWB isn't so easy to replace. Some of its features are no longer necessary. For example, Workbench now allows scrolling of a window's contents using the cursor keys natively. The various 'Show By' modes all have keyboard shortcuts, although these aren't always as convenient as the window gadgets provided by PowerWB. Using a menu is a far less convenient way to delete files than a single key, but it's also a lot safer - the reason given for not implementing DEL as a Workbench delete key.

WBCtrl and TweakWB

These two programs share many features, although they take totally different approaches. WBCtrl is a command line program, run once in user-startup. TweakWB (shown here on the right) is a commodity that runs in the background all the time. This enables it to provide a few extra features. Both of these programs will allow you to:

Left: TweakWB lets you change various features of Workbench. Note the help text at the bottom of the window, which changes depending on the position of the mouse pointer.

•Use fast RAM for images

This noticeably speeds up icon loading and drawing, as well as reducing the 2MB limit. This requires a graphics card, although it can work with FBlit (a freely available utility for AGA users to store image data in FAST RAM) too.

•Remove the "fuel gauges" from Workbench windows

Turns off the gauges that show how full your drives are.

•Enable drawer notification

With this turned on, every time a change happens to the contents of a drawer that Workbench is showing in "Show All" mode, the Workbench window will be redrawn.

•Change the size of the copy buffer

This sets the maximum number of bytes copied at a time. Not all SCSI controllers can handle a larger setting. If yours can, and you have the memory, you may see an increase in copying speed from changing this.

TweakWB has some further options:

•Convert MagicWB icons

This loses the original MWB information, so don't use it on icons that will also be used on OS 3.1

•Use datatypes for filetype recognition

This will attempt to use datatypes to identify iconless files and load an appropriate default icon for them. The icons use a different naming system from the old DefIcons, so it may be better to use the DefIcons replacement.

•Set maximum filename length.

Filesystems like PFS3 and SFS allow up to 108 characters in a filename, whereas FFS is limited to 30. This leaves 25 for a Workbench file since 5 are needed for the ".info" extension (required for icons). By default, only the first 25 characters of a longer filename will be shown, but you can increase it for other filesystems here.

Commercial software and OS 3.5

Most commercial software is written in a system legal way, so it will work with OS 3.5. The one area where this may not appear true is for icon handling. Since the icon system has been changed in 3.5, older application may no longer work with NewIcons, although Workbench itself does. Where the software is still under development, it's fairly easy for the authors to make the necessary changes.

Directory Opus is an example of this and there are patches on this month's AACD to take Opus Magellan II versions 5.8 or 5.81 up to the latest 5.82 with full ColorIcon support. Opus has never supported NewIcon images for AppIcons; previously this was solved with the NewIcons patch. Now, these AppIcons show the old imagery. The solution is to convert them to ColorIcons, using either ConvertNewIcons from the OS 3.5 CD, or ProcessIcon from this month's AACD.

One piece of commercial software that is no longer in development, but is still extremely useful, is Superbase. For reasons yet to be determined, Superbase Pro will not print when using OS 3.5. It makes no difference whether it is set to use its own drivers or Prefs. Printing via TurboPrint works exactly as before, so it is most likely that something that needs to be changed in the OS 3.5 printer.device.

TurboPrint itself works perfectly with OS 3.5. Although the printing system of 3.5 is a great improvement over 3.1, TurboPrint still produces significantly better printouts.

"...there are patches on this month's AACD to take Opus Magellan II versions 5.8 or 5.81 up to the latest 5.82 with full ColorIcon support."

ARexx possibilities

The new ARexx port provides many possibilities for extending, enhancing and customising Workbench. Here are some the things you can now do via ARexx:

- **Open and close windows**
- **Move and resize windows**
- **Change the view mode of windows**
- **Delete files and drawers (the ARexx command also deletes associated icons, as Workbench does but the shell 'Delete' command doesn't)**
- **Get information on the currently open windows and selected icons**
- **Select, unselect and move icons**
- **Add ARexx commands to hotkeys**
- **Block all user access to Workbench**
- **Execute menu items, as if the user had selected them**
- **Add and remove items to the Tools menu**

Above: AWNPipe makes creation of GUIs for ARexx scripts easy. Combined with the new ARexx port for Workbench, this should result in a lot of new Workbench utilities being released very soon.

Here's a basic example of how you can replace PowerWB's use of the DEL key using Workbench's ARexx port.

```
/* Delete files using the Workbench ARexx port */

options results
address 'WORKBENCH'

/* Get the path of the active window and exit if no window active */
'getattr windows.active var 'ActiveWindow
if ActiveWindow = "" then exit

/* Add a trailing '/' if it's a drawer */
if right(ActiveWindow,1) ~= ':' then ActiveWindow = ActiveWindow'/'

/* Get the number of icons selected, and exit if zero */
 'getattr window.icons.selected.count name' ActiveWindow 'var' IconCount
if IconCount = 0 then exit

/* Delete each one  by getting the name and passing it to the delete command*/
do i = 0 to IconCount - 1
      getattr window.icons.selected.i.name name ActiveWindow
      'delete' AddPart(ActiveWindow,result) 'all'
      end
```

Save this as REXX:Delete.rexx and bind it to Alt-DEL by with the command:

```
'keyboard name "Delete" add key "RCOMMAND DEL" cmd "REXX:Delete.rexx"
```

...or use the "T.H.E" tool to bind it to the hotkey of your choice.

Reading the docs

The documentation is supplied in two formats, HTML and PDF. The HTML manuals are readable in just about any web browser, including AWebSE, but are slow to load.

The reason is that each manual has been put into a single file, meaning your browser has to load a 1MB document at times. As always, a resourceful Amiga user has tackled and solved this problem. SplitOSDocs is an ARexx script to split the HTML version of the documentation into several smaller and more manageable files. It can take a while to run - around twelve minutes on an A4000/060 machine, possibly rising to around an hour on an 030. However, it only needs to be done once, so start it off and put the kettle on or go to the pub, depending on your preference and the CPU in your Amiga.

The PDF documents are not without problems either. Acrobat, used to create them, defaults to encrypting the files when it saves them.

The best Amiga PDF viewer, Apdf, is written in France where the cryptography laws make it illegal to distribute a version with decryption support. A version with encryption support has now been made available via a German site, thanks to the international nature of the Internet. There are only '020 and '060 versions currently available, both of which you will be able to find in the OS35 drawer of this month's Amiga Active cover CD.

However, the same effect could be produced by using the DEL key as a hotkey linked to an ARexx script. There's no reason why the author of PowerWB, or someone else, couldn't release an OS 3.5 version, but it was inevitable that some things like this would break - they have to break the rules in order to work.

What's new?

Enough of the bad news about old, incompatible software. What new things can we do? The boxout on page 36 shows how WBCtrl and TweakWB can be used to control new features of the OS. One of the most important enhancements is the addition of an ARexx port to Workbench. This means it is now possible to write utilities that enhance Workbench without having to learn C and wrestle with autodocs, includes and so forth. An excellent example of this is T.H.E. (presumably standing for The Hotkey Editor), a program which allows you to add and edit Hotkeys and the Workbench Tools menu. What makes this so different from its predecessors is that it is written entirely in ARexx, using the AWNPipe device to provide a Reaction GUI.

Large hard drive support is incorporated into the ROM patch for Fast Filesystem. This is enabled automatically by SetPatch, but any hard drives already using an older version of FFS will continue to use that rather than the new version. This is because the filesystem used by a hard drive is stored on the drive itself in its Rigid Disk Block (RDB). To update the RDB, load HDToolBox, select the drive and click on "Partition Drive" followed by Add/Update. If there is already an entry for FastFileSystem, select it and press "Update File System." Otherwise, press "Add New File System," select FastFileSystem from the file requester, make sure the version gadget says 45.1 and click on "OK." Finally, press "Save" in the main partition window and the drive is updated. You only have to do this once for each drive, no matter how many partitions that drive has. All FFS partitions load their data from the same RDB. This will not affect any partitions using other filesystems, like PFS or SFS, provided you didn't touch any entries for them in the filesystem window.

Above: This month's AACD contains a full set of default icons in the new style, downloaded from the OS 3.5 section of Amiga's web site and converted to ColorIcons for you.

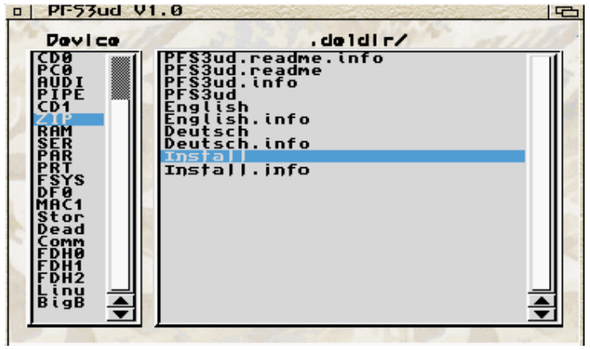
If you use a third party SCSI controller, some changes to the way it operates may be made by SetPatch. This is controlled by an entry for the controller's device name in DEVS:NSDPatch.cfg. If your drives work correctly, the principle of "if it ain't broke, don't fix it" applies here. Don't go changing the contents of NSDPatch.cfg for the fun of it, and always make a backup copy before editing the file. If you do find that a change to the file renders your system unusable, hold down the reset keys for ten seconds to force a cold boot and flush out the changes made by SetPatch. Then boot with no startup-sequence and rename NSDPatch.cfg to prevent SetPatch finding it. Now you should be able to boot and undo whatever changes you made.

And finally...

Like its predecessors, OS 3.5 has a few hidden surprises, sometimes known as Easter Eggs. These are hidden messages that can only be revealed by pressing a certain combination or sequence of keys and mouse buttons. When you've finished exploring the other features of OS 3.5, you could spend some time hunting these down. We may publish a list later, to put you out of your misery... or we may not.

Neil Bothwick A

Active Shareware



Above: Undeleting files from PFS3 volumes: now even easier!

This month we have, due to popular demand... a console masterclass and an easy file recovery tool for PFS3 disks.

We have had quite a few people requesting to know more about KingCon, the console replacement, so here is our in-depth look at what it does, and why you should be using it if you aren't already.

Many Amiga users are put off by the Amiga shell, preferring the point and click interface Workbench offers instead, but there is a wealth of power lying in that not too inviting window. In order to make the CLI (Command Line Interface) an easier place to be, KingCon gives some enhancements to the CLI shell, and offers some Workbench like qualities as well.

Most Workbench users will be familiar with drag'n'drop, the ability to pick up icons and drop them into other windows. KingCon gives you this facility too, so rather than having to manually type in the path and name of the file you want to act upon, you can simply drag the icon for the file into KingCon and the path and name is shown in the window. Here's an example: you can mix the drag'n'drop with manual typing, so type 'copy' into the KingCon window and drag in a file. This file will form your source for the copy. Now you can drag in a directory (yes, it even works with directories) which will form your destination. A final press on the RETURN key executes the command in normal CLI fashion. Cleverly enough, KingCon also recognises the fact that there may be spaces in the path or filename and encloses the whole thing in quotes for you. A typical example here is "Ram Disk:", a valid AmigaDOS volume name, although when entered into a shell it will be misconstrued as 2 separate words, confusing the argument parser completely. Quote enclosing them stops this, and this is just one great specialities of KingCon.

Filename completion may not be something you are familiar with, but in essence is one of the reasons that KingCon is so useful. Let's study another practical example. You may have a directory with lots of files in, and you're not quite sure of the spelling of the particular file you are interested in. Normally this would mean trawling through the whole directory trying to find it, but KingCon steps in to make life simple. We'll take the System directory of your Workbench disk, and in particular the file called Rexxmast. You can enter the directory normally, and then enter just a few characters of the filename. In the case of Rexxmast, entering 'rex' would be enough. Then, by pressing the TAB key, you can make KingCon search the directory for you and complete the filename with the correct spelling. This may sound like an extremely simple example, but you'll find yourself in situations where this facility is a real time-saver.

Filename completion doesn't stop there either. Pressing TAB without any characters to match will show you a list of all files and directories in the current drawer you are in. This makes it stupidly simply for even the most avid CLI haters to navigate their way around. You can select the file, or directory, from the list with a mere mouse click, and in the case of directories you can actually enter it. You can then press TAB again and continue, just like a file requester.

Here's a thought - suppose you press TAB trying to complete a filename and there is more than one file that matches your criteria? Well, there has been a tremendous amount of thought go into this, and Kingcon simply brings up a list which will show all (and only) the files that match. Again selection is simple; select the file from the list and the command line is updated to that effect. There is also a device completion system that will match devices and command completion that allows you to match or select anything from the C directory.

Other notable functions that strengthen the reasons for a KingCon installation are its scroll-back buffer and history. The scroll back buffer is a god send for commands or scripts that output lots of data to the console window. With the normal Amiga shell, once that information has scrolled out of the top of the window, it's gone. With KingCon, this information is stored in this buffer, and by using the scroll bar on the right hand side of the window, it is possible to bring back earlier data and inspect it. When using the console for debugging, for example, this feature becomes invaluable, especially when you consider that this buffer can be saved to disk as a plain text file for future reference. The history buffer stores all the commands you have issued in the CLI, and any of these can be recalled at any time by simply using the cursor up/down keys, in itself saving time by not having to repeatedly type the same command line into the shell more than once.

KingCon also brings the intuition features more up to date with the ability to be able to iconify the window. With the standard Amiga shell, once you close it, you lose any information in the window. Although this is the same with KingCon, by iconifying the window you can clear the screen without losing that vital information, history or scroll-back buffers.

Suppose you need to use the shell whilst also using another program on a different screen? Think of all that screen swapping backwards and forwards, what a pain! Not with KingCon though, as it will allow you to put its window on any public screen, and there's even a menu option which asks KingCon to jump to another screen. Now you can have the shell and your program in use side by side on just the one screen.

Going back to the problem of reams of output in the window, don't you sometimes wish that you could stop that directory listing of three thousand files so you could get a chance to look at it? KingCon offers a menu item allowing you to Halt and resume output, so there's no excuse to miss that vital piece of info that went flying by. To finish off the feature list, you can also print the contents of the window, again simply by selecting the print menu item. Try doing that in a standard shell easily, without using redirection files or pipes.

It is indeed unfortunate that KingCon hasn't been updated since its release way back in May 1994, but in all truthfulness David Larsson did an extremely good job with KingCon. It has been reported over the time that it has problems with hacks that alter the way intuition renders its gadgets, namely SysIHack and PatchWork. Luckily, Flavio Stanchina had the foresight to write a small patch for KingCon that corrects these problems. You can find the patch archive in the usual shareware section of this months cover CD.

PFS3 Undelete

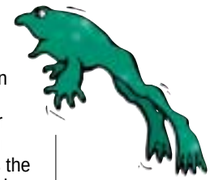
Here's a nice little tool for those of you that have installed PFS2 or PFS3, and have unretreivably deleted files. Simple yet effective, PFS3 Undelete will allow you to select the disk in question from the list in its GUI and will instantly show you the files that are currently in PFS's ".deldir." As PFS doesn't actually wipe the files from your disk until it needs the space for something else, by inspecting the contents of the .deldir, PFS3 Undelete can easily retrieve lost data. Just double click the name of the file you want to restore, and it appears in RAM.

Jumping around

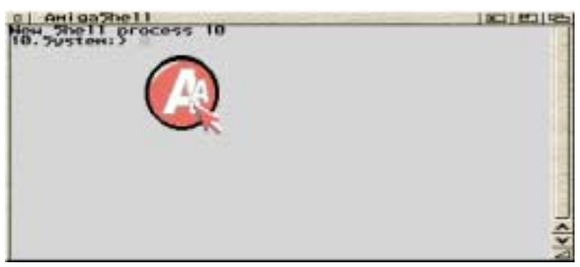
Quite an unusual name for a piece of software of this genre, but great at its job. Frogger, as the name doesn't imply, is an MPEG video player that uses some very quick optimisations to the MPEG stream parser. Running only on Workbench, and at best in 256 colours, it boasts a very acceptable frame rate on our office '060 based A4000 with PicassoIV video card. It uses the WritePixelArray8() command in the graphics library and benefits from patches such as NewWPA8() by Michael van Elst.

The archive includes the 68K executable for normal users, but if you have a PPC card fitted to your machine, there is an ELF version for extra speed. If you're looking for a quick, simple solution to viewing MPEG video, you should try Frogger. Milek has really put some work into it.

Simon Archer A



Below: Frogger... not jumpy at all.



Below: KingCon's most excellent and finger-saving drag'n'drop facility.
Below Right: Weaving spells of black magic. Or perhaps it's just KingCon's filename completion requester...

SAMBA

without tears.

If you really want to get your Amiga on a LAN, there's only one option - get together and Samba!

If there's any truth in the hypothesis that the greater the gain, the greater the pain, then there is some excuse for Samba. Personally I doubt it. The shocking truth is that Samba is a nightmare program of typical UNIX user friendliness - millions of incomprehensible settings, documentation aimed at programmers not users, BIN folders, case sensitivity and back slashes. Blame those tree-hugging UNIX programmers. This is a shame, because Samba is an absolute must-have for anyone who has several computer platforms around the house or office.

Getting two computers of the same type to talk to each other is a relatively simple task. Putting a mixed network together is another story altogether. Samba is a UNIX application that solves this problem, and is available in versions for most computers, including, of course, the Amiga. Samba is named for the SMB (Server Message Block) networking protocol used by Microsoft networks. The principal behind it is relatively straightforward. You install it on your Amiga, and persuade your PC to log onto it by telling the Windows networking software that it is a Windows NT domain. Other Samba clients running on other platforms can be similarly linked, so you aren't just limited to the PC.

Sharing drives

The advantages of a network of this type over a simple file transfer network (such as the Amiga Explorer system included in Cloanto's Amiga Forever) is that it allows each computer on the network to mount the drives of another computer as if they were its own. This means that you can, for example, copy a file from one computer to another via icon drag and drop, or load a file stored on your PC directly into an application running on your Amiga, and save the modified file straight back there. It even means (pleasure of pleasures) that you can use Directory Opus to handle all the drives and data on a Windows machine, and never have to use Windows Explorer again (hurrah!) You can also use it as a network print controller, allowing your PC to print via your Amiga's printer or visa versa.

So the software works a treat, and it's absolutely free, too (you'll find it on our CD). Why, then, would anyone use anything else? The answer is usually "Well, I tried Samba, it didn't work, I gave up". You will love Samba when you get it working, but you will hate it with a passion until you do. Getting to that working stage is a task even Hercules would think twice about. Figuring out what is wrong with your set-up means scouring through configuration text files looking for a single character out of place, or scratching your head trying to figure out why on earth Windows just refuses to accept the correct password.

Right: Samba lets you use files on another computer in all the ways you can use local files.

With these caveats in mind, we have here what I hope is as close to foolproof a route to a functional Samba set-up as you can get. If you follow these instructions carefully and make sure the screenshots match what you see on your screen, you should be able to tame the beast in the space of half an hour. However, be warned that this is not the most security conscious set-up I could have come up with, it is the most likely to work. If you are connecting to wider networks, you should definitely read the parts of the documentation concerning security and reconfigure your user, share and password settings accordingly.

Getting started

Before you go any further, get a pen and paper and plan out your LAN, so that you can be sure you are always giving your computers the correct information. You should write out something like this:

WORKGROUP NAME: LAN

Hosts:

pc	*IP number:*	*192.168.0.1*
amiga	*IP number:*	*192.168.0.2*

USERS:

root	*Password:*	*swordfish*
pc	*Password:*	*iamweasel*
pcguest	*Password:*	*(none)*

What we have here is a breakdown of the network. I have called the network itself LAN, and the two hosts (computers) on it pc and amiga. I have specified an IP number for each of these, which is a unique identity for the computer. This number should be different for every machine on the network. However, remember that when you connect to the Internet, there are a lot of computers and a lot of machines on the same network. Although you can get away with quite a lot with some software, Samba is easily confused, so I strongly suggest you use the 'legal' numbers reserved for private networks to avoid conflict. This means select any number for your computers in the ranges 192.168.0.1 and 192.168.0.126. The user accounts are to allow us to decide who gets access to what. Keep all host and user names in lower case to avoid problems. I will use these values throughout the tutorial; obviously in all cases you should use your own if you chose differently.

I'm not going to explain setting up a LAN here, as it has been covered already in some depth in Amiga Active issues 1 and 3. You will find the quick guide that was part of the Issue 1 review of Amiga Forever in PDF format on the CD. In this case it is important to fill the host name in correctly and make sure that you use the correct IP numbers (don't use the numbers specified in that piece, they aren't totally safe to use in Samba and I'll get told off again). In the Network settings control panel in Windows, make sure that under the Identification tab you set the computer name to the name you chose for a host and the Workgroup name as you selected (in my case pc and LAN).

The fun begins.

Now it's time to get serious. You should have a functional LAN (test it by opening an Amiga shell and typing "ping 192.168.0.1" (or whatever the IP number of your PC is). You should get a few responses back reading something like "64 bytes from 192.168.0.1: icmpseq=0 ttl=32 time=1ms". When you are bored, hit Control-C to stop the process. You should get a message saying something like " 6 packets transmitted, 6 packets received, 0% packet loss". If the packet loss figure is 100%, your network isn't working. Check all the IP number settings carefully. If you get any number in between, you probably have a noisy network and should check that your cabling is correct and not too long. You can do the same test the other way by opening an MS-DOS prompt on your Windows box and typing 'ping 192.168.0.2' or whatever. Try doing this with the host names (pc, amiga) as well. If your PC doesn't recognise the name amiga, you can make it do so by loading the file "hosts.sam" in the Windows directory into a text editor and adding the line "192.168.0.2 amiga" at the bottom. It's unclear whether this helps out Samba in any way, but it doesn't hurt to be sure.

Now you should install Samba. Just copy the files from the CD across to your hard drive. Do not use the older version of Samba that required IXEmul libraries. It's important that you have the bin, lib, logs, private, and swat directories in the same place, and assigned to samba:. Edit your sys:s/user-startup script and add the lines

```
;BEGIN Samba
set TMPDIR "/t"
assign samba: (your path)
path samba:bin/ add
;END Samba
```

Obviously, replace (your path) with the full path to your Samba installation, for example work:comms/samba or AmiTCP:samba, and save the file. While we are doing the installation groundwork, we might as well install some elements of the SMB-Handler package also included on the CD; it will come in handy later. Just copy the file 'SMB-handler' from the archive into your L: directory, and copy the files 'Dev_D', 'Dev_D.info' and 'die' to your Samba drawer. OK, now we are ready to get down to the nitty gritty of setting Samba up and making your machines talk. For the following examples I will use Genesis, but Miami is equally appropriate and very similar to use.

"It's unclear whether this helps out Samba in any way, but it doesn't hurt..."

Left: Make sure your hosts are set up with proper IP numbers.

Learning to Samba

Step by Step...

1 From Genesis prefs, select 'users' and add the user information you wrote on the piece of paper. Make sure each user has a unique ID, and pcguest should have a group ID that no password protected user shares. Select 'Database' and chose 'Groups' from the cycle gadget. Make an entry for each group ID, giving it a name and the names of any users who are members of the group.

2 Staying in Databases, choose services from the cycle gadget and add the following four entries:

```
Name: netbios-ssn Port: 139
 Protocol: tcp

Name: netbios-dgm Port: 138
 Protocol: udp

Name: netbios-ns Port: 137
 Protocol: udp

Name: swat Port: 901
 Protocol: tcp
```

3 Move the cycle gadget to InetD and add the following entries. You will then have the Samba servers launched by the stack's Internet Daemon launcher, and they will be bound to the appropriate ports. Ensure that all these entries are set to 'enabled'.

```
  Service: netbios-ssn Socket: stream
Protocol: tcp Wait: nowait User: root
Server: samba:bin/smbd CLI name: smbd

  Service: netbios-ns Socket: dgram
Protocol: udp Wait: wait User: root
Server: samba:bin/nmbd CLI name: nmbd

  Service: swat Socket: stream
Protocol: tcp Wait: nowait User: root
Server: samba:bin/swat CLI name: swat Args: -a
```

4 To ensure that your stack will allow access to the necessary ports, select 'Access' from the cycle gadget and enter the following lines:

```
  Service: 139 Host/Mask: 192.168.0.*
Access: allow Log: log
  Service: 138 Host/Mask: 192.168.0.*
Access: allow Log: log
```

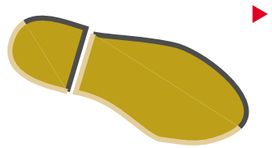
You may need to add another line as above for service 901 if you want the Samba administration tools accessible by other users/machines.

"In the past this meant editing text files, but thankfully the Samba Web Administrator Tool makes life a lot easier."

5 Samba should now be launched when you fire up your TCP stack. Unfortunately it doesn't end there, as Samba's configuration files have to be set up too. In the past this meant editing text files, but thankfully the Samba Web Administration Tool (SWAT) makes life a lot easier. Maybe those UNIX programming tree-huggers aren't so bad after all. Launch your stack and then a web browser. Point your browser to SWAT's port, using the format http://hostname:portnumber/ - in my case that's http://amiga:901/. Click on the 'Globals' button and let's get started.

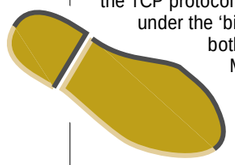
6 There are a lot of options to play with here, but for the moment just set 'Workgroup' to the name you chose at the start, 'Netbios' to the name of the host running Samba, and write whatever you like as the 'Server String'. Under 'Interface' put the IP number and net mask of the Samba host interface (in my case this is 192.168.0.2/255.255.255.0). Set security to "share" and type "pcguest" in guest accounts. If your Amiga is the main server (i.e if there isn't an NT server elsewhere on your network), the rest can be left as it is. Hit the 'commit Changes' button.

7 Now hit the Shares button. Here you can define shares available to other users on the network. Add shares by typing a name into the text gadget at the top and hit the 'Create Share' Gadget. To set the properties of a share, select it from the cycle gadget at the top and hit 'Choose Share'. Set the path you want using UNIX notation - "/sys" would make the share sys:, "/ram" would make the share ram:, and "/" would include all devices connected to your host in the share. For the moment just set "guest account" to pcguest, and make sure 'guest OK' and 'browseable' are set to "Yes" and 'read only' is set to "No". Later you can experiment with the 'hosts allow' and 'hosts deny' options to allow different users or groups different levels of access to the networked drives. Click the 'Commit Changes' gadget.

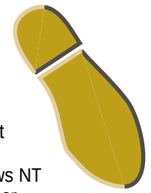


8 Now Samba is set up, and all we need to do is get the PC to know this fact. From the Windows Start bar, select 'Settings/Control Panel' and double-click 'Networking'. Select add, then client, then under 'Manufacturers' select Microsoft, and pick "Client for Microsoft Networks". Use the same technique to add a service, "File and Printer sharing for Microsoft Networks". Make sure that the 'Primary Network Logon' is set to "Client for Microsoft Networks". Select the TCP protocol for your LAN and under the 'bindings' tab, select both "Client for Microsoft Networks" and "File and Printer sharing for Microsoft Networks".

8



9



9 Select the 'File and Printer Sharing' button, and make sure you tick the options to give others access to files and printers. Select the 'Client for Microsoft Networks' entry in the network components list and click properties. Tick 'log on to Windows NT Domain' and enter the IP number of your Samba server under 'Windows NT Domain'. Select "Quick logon" from 'Network logon option'. Hit OK until you are told that the machine must be rebooted, (there's a shocker), but don't reboot yet.

10 Now we need to set up our shares on the PC side. For the moment all we will do is make the PC 'C' drive a share. Right-click on the C drive in 'My Computer' and select 'sharing'. Select 'Shared as' and insert the name "C" (must be capitalised) in 'Share name', and set 'Access Type' to "Full". You can password protect the share if you want.

10

11 Now reboot your machine. The login window should appear, with an extra line reading 'Domain' with the IP number of your Samba server. Log in and double click on the 'Network Neighbourhood' icon. Assuming everything is working, you should see both the Amiga and PC shares appear here. You can browse these as normal. If you want to select a file on your Amiga drive from an application, just navigate to the 'Network Neigherbourhood' icon, select Amiga, and click through the shares. You can map a share as a local drive by right-clicking on 'Network Neighbourhood' and selecting 'Map Network Drive'. Just select a drive letter and type the path in using the form "\\hostname\share". In my case this is \\amiga\all. The share will now be visible as a networked drive in 'My Computer'.

11

12 On the Amiga, go to your Samba drawer and edit the DEV_D file we copied from the Samba Handler archive. This is the mountlist for mounting a Samba share as an Amiga drive. You may want to change the name to something more meaningful. The line you will need to edit is the 'Startup' string. There need to be three entries here, 'C=' for the share path (i.e. "C=\\PC\C"), 'MH=' for the host name (i.e "MH=AMIGA) and 'W=' for the workgroup name (i.e "W=LAN"). Optionally you can add a drive name with 'DN=' and a User and Password with 'U=' and "P=". I advise you to use capital letters for everything. Save the file and click on the item. As if by magic your PC drive appears on your desktop just like any other hard drive. You can now unleash your Amiga applications on all those PC files!

12

Andrew Korn A

Pitfalls & Problems

Followed the tutorial? If you still get nothing, something's probably wrong on the PC side. NetBIOS (the system used for broadcasting name information) can get easily confused if you have more than one TCP interface. So what can you do about it?

There are many things that can go wrong with a samba network, and if yours just isn't working, you're in for a tough time. The first thing to do if it doesn't work is to double check all those settings, paying particular attention to getting uppercase/lowercase set the way you see it in the screenshots. However there are a few particular pitfalls worth watching out for.

Passwords not accepted.

If you have a recent revision of Windows '95 or NT or are running Windows 98, you can't use plain text passwords. Change the setting in SWAT's globals page to 'Encrypt Passwords: yes'. If that doesn't work, try enabling plain text passwords. This involves editing the registry, unfortunately. Select 'run' from the start menu and type in "regedit".

Select HKEY_LOCAL_MACHINE\system\currentcontrolset\services\VxD\VNETSUP (replace the last two with \Rdr\Parameters for NT4). Select 'New/DWORD value' from the edit menu, and call the entry EnablePlainTextPassword. Right-Click on it, select modify, and enter the value "1". Don't you just love Windows?

Names not found.

There are many reasons for this to happen. Make sure that NMBD is actually running, you can check this in the SWAT status page. If it is not, check the InetD, Service and Access entries are correct. Sometimes NMBD doesn't like being launched from InetD, so it is worth running it from the command line (easily automated) with the command:

```
run <>nil: samba:bin/nmbd <>nil: -D -d2
```

If you still get nothing, something's probably wrong on the PC side. NetBIOS (the system used for broadcasting name information) can get easily confused if you have more than one TCP interface. Check Network Properties and double-click on the LAN TCP entry. Select the Netbios tag and ensure it is checked. If you have another TCP entry for DialUp Networking, for example, this can get in the way. Bizarrely, I had to check NetBIOS in the preferences for my DialUp before my LAN was prepared to use it.

Finally, you may be able to get a better name service using WINS. Go to 'Globals' in SWAT and set WINS support to "Yes". On the PC, select Network Properties and double-click on the LAN TCP entry. Select 'Wins configuration', check 'enabled', and type the IP number of your Samba server in the 'Primary Wins Server' slot.

Using Samba on a larger LAN.

The configuration above assumes that the Amiga will be the LAN name server. If this is not going to be the case, such as if you are connecting your Amiga to a pre-existing office network, you have to change a couple of things. You'll need to use the 'Globals' page of SWAT in advance view. Make sure the browse options are set to 'no', select 'Encrypt Passwords' on, set 'Security' to "server" and set 'Password Server' to the name of the Primary Network Server. Then read the docs very carefully and talk to your Network Administrator before you mess up his or her nice network!

What next?

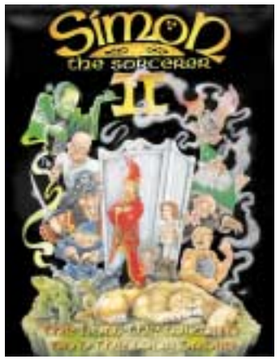
Once you are confident that Samba is running, try looking at some of the other options. One of the first things you should look at is running a Samba print server - it's easy to get one machine to print out for the other. AmiPopUp is a WinPopUp clone, which allows you to send pop-up messages between two networked machines. Try adding an extra computer to the network as the main Samba server, and get it to launch your TCP stack and Samba when it boots. You can use this without a monitor as an under-the-desk file server, and connect large hard drives, Zips, ORBs, CD-ROMs etc. for use by any machine on the network.

Security is something you should deal with fairly quickly - the network we set up relies a lot on guest accounts. Try limiting guest access and using the 'deny' / 'allow' settings to control which hosts, groups or users have access to which machines. Experiment with the difference between 'Share' level security and 'user' level security.

AmiPopUp is a WinPopUp clone, which allows you to send pop-up messages between two networked machines.

21st Century Swampling

This month, we point, click and shoot our way through another selection of some promising games heading your way in the 21st Century. Give or take a few days.



Hot on the heels of bumper Christmas biscuit selection boxes and more chocolates than you could stuff in your stocking, a whole host of titles are lining up to tittilate your Amiga gaming tastebuds - and all of them are more appetising than cold turkey sandwiches.

Swamp Stew, Anyone?

(left)

Simon The Sorcerer returns to the Amiga, this time in Adventuresoft's second incarnation of the hapless wizard's adventures, courtesy of Epic Marketing. So what can we expect to see from Simon the Sorceror 2, "The Lion, The Wizard and the Wardrobe"?

"This isn't just any old 'Child in fantasyland' story," claims the blurb on Epic's web site. *"For starters, no other kids have to put up with useless old wizards, unattractive heroines, baddies that simply don't know when to stay dead and being the last one in school to discover puberty."*

More of the same schoolboy humour, then - not that you'll hear us complaining.

First released in 1995 for the PC, Simon The Sorceror 2 is a belated conversion for the Amiga, but certainly a welcome one. Following on from his first adventure, which was a major Amiga hit in the early '90s, Simon, now in his teens, is whisked back to the world of the first game by a rogue wardrobe.

Perfectly natural, of course - as is the appearance of Simon's old friends and adversaries, including Swampy the Swampling with his Swamp Stew! Hurrah! New characters are also introduced, as are a whole variety of new jokes, puns and insults.

Improved graphics, music and background conversations that promise to provide as many laughs as the real action are just a few of the elements to look forward to in Simon The Sorceror 2. With *"Gilbert Goodmate and the Mushrooms of Phungoria"* (previewed in issue two) also nearing completion, Amiga adventure gamers should be in for a real treat. It's about time, we think.

Ongoing Operation

(below, and top left)

After a long stint of silence, BlueBlack Solution have finally announced that real-time strategy game *"Operation: Counterstrike,"* once re-named *"Siberian Suns,"* will be called *"Operation: Counterstrike"* after all.

Now that the title has been finalised, BlueBlack told us that the three-month news drought hasn't been a complete waste of time, and that development for AGA or systems with less than 16MB of RAM has been ditched. Yes, Operation Counterstrike joins the long list of games which will require a rather more powerful Amiga than a bog-standard A1200.

All the code has been ported to C++, and a graphics card will be required by anyone wishing to play Operation: Counterstrike, as it will only support 16 bit graphics modes. BlueBlack are waiting to get their hands on a BlizzardPPC card so that they can evaluate the possibility of a PowerPC version.

The latest specifications for Operation: Counterstrike make for interesting reading, not least the inclusion of the phrase *"16 bit sound effects - created by a professional dubbing mixer whose credits include work for the BBC and Sky Television."* Just as long as he (or she) had nothing to do with the dubbing on Ferrero Rocher adverts, this can only be A Good Thing.

As for timescale - it's difficult to tell. Operation: Counterstrike has been in development for well over a year now, on and off, and BlueBlack only recently announced that they are looking for an additional programmer with experience in writing XPK libraries in order to further continue with the game's development. The pictures you see here (below, and top left) are in-development shots of the various units from within the game. Needless to say, we will be bringing you further news of Operaton: Counterstrike as soon as it becomes available.

Payback time!

(top right)

No, not based on the Mel Gibson film, but a game from the Grand Theft Auto mould. Terrorise the streets and blow things up (not in real life, if you please, just on the computer screen) courtesy of Payback. The latest developments were explained to us by Apex Designs' James Daniels:

"Negotiations for the soundtrack are still underway. 11 bands have agreed to appear in the game, contributing a total of 16 songs (...) in my opinion, the quality of the soundtrack easily surpasses GTA's."

Sounds tempting - and although at the time of writing, Payback only runs in a rather lowly 8 bit 320x200 resolution, Apex are planning on implementing support for higher resolutions just as soon as they can get their hands on a BVision graphics card.

Despite the difficulty in obtaining hardware, Apex assure us that a playable demo should be available in February with the final game following shortly afterwards. For the latest information on Payback, visit Apex Design's recently rejuvenated web site, at: http://www.apex-designs.net

David Stroud A

Heretic II

preview

Think that first person 3D games are all just boring mindless violence? Heretic! We know just the game for you...

With the first of what is shaping up as a seriously impressive portfolio of conversion, Hyperion are hoping that Heretic 2 will give 3D role-playing adventure seekers something to drool over. We're doing plenty of that at the moment as we look at some of the latest screenshots, reproduced here for your viewing pleasure.

Intrigued though we are by the screenshots, there are some vital pieces of information they fail to provide: Just how well will Heretic 2 run on an Amiga, and what will be required to get the most out of it?

After speaking to Hyperion Software, it turns out that Heretic 2 will run *"quite capably"* on a PowerPC-equipped Amiga. At the current point in time, the software rendering routines (i.e. running the game without the assistance of 3D hardware like the Permedia2 graphics chip on BVisions and CVisions) running on a 233Mhz CyberstormPPC card already outperforms a K6-2 PC system clocked at 400Mhz. If you have 3D-capable hardware (a Permedia2 board is the only current solution, but the Voodoo add-on module for the PicassoIV, the Ateo Voodoo, the NG CyberVisionPPC and BlizzardVisionPPC and a graphics card for the AmiJoe have been promised), you should be in for a treat.

This doesn't mean that Heretic 2 will only run on a PPC Amiga, however. Hyperion have been working on an '060 version, a 60Mhz (overclocked) variety of which currently runs the game at 12 frames per second in low-resolution, low detail mode. Not the ideal way to enjoy a 3D role-playing adventure, but certainly playable nonetheless.

"Intrigued though we are by the screenshots, there are some vital pieces of information they fail to provide..."

Virtual Insanity?

Memory requirements may prove more of a problem for the average Amiga user. Those without a PowerPC accelerator will require at least 32MB of RAM, but only if the finished game can be made to work with VMM, a freely-available "hack" which implements a Virtual Memory system on 68k-based Amigas with an FPU (Floating Point Unit). 64MB of RAM is highly recommended, however - and PowerPC users will require 64MB of RAM regardless.

"Before readers work themselves up into a frenzy over these numbers," Ben Hermans, managing partner of Hyperion Software quickly points out, *"64MB is what we were able to reduce it to after implementing a caching mechanism inside the game. In actual fact, some levels of Heretic 2 require in excess of 80MB."*

A sobering thought indeed, but it should be remembered that Heretic 2 on the Amiga is a different kettle of fish than the original game which already graces the PC. Windows has Virtual Memory built in, whereas the Amiga does not. Ben Hermans is also quick to point out the reason Virtual Memory cannot be implemented for PowerPC Amigas:

"Implementing VM on the PPC is nearly impossible because of the fact that the actual loading is done on the 68k processor, but the game runs on the PPC. There are therefore two physical processors involved. The MMU [Memory Management Unit] on the PPC doesn't have a clue as to what the MMU on the 68k is doing."

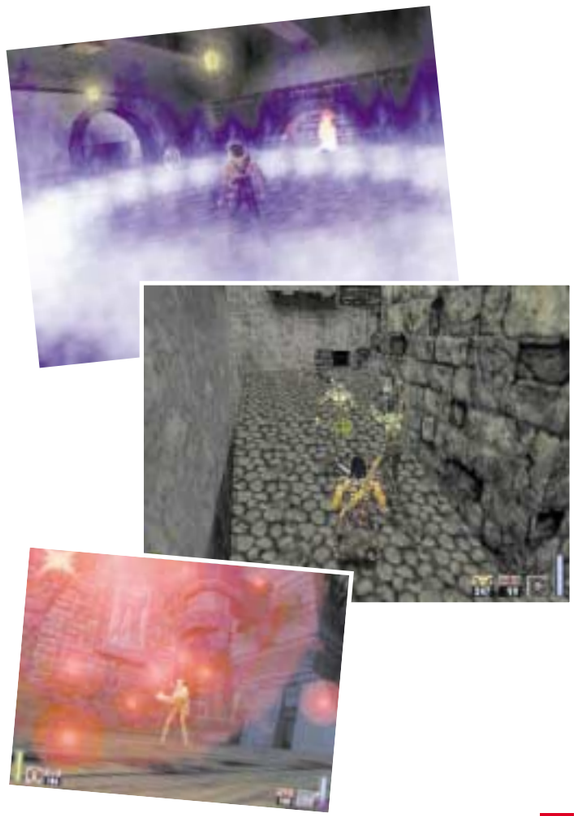
Amiga Active recommends that you all get your hands in your pockets and chase a PowerPC accelerator, 3D graphics card and a nice wodge of RAM - and not just for Heretic 2. We're looking forward to a lot of very nice surprises from Hyperion in the months to come. We'll tell you more as soon as we can.

David Stroud A

Here: Fancy a quick game whilst you wait for that e-mail to download? No problem!

Here's an example of the difference between low and high resolution screenmodes in Heretic 2. Playing in low-res would be akin to buying a fast car and only using the first three gears. Upgrade your Amigas and make the most of games like this!

Screen resolution... spot the difference!



NAME: MAX RALLY
DEVELOPER: FORTRESS
SUPPLIER: CRYSTAL SOFTWARE AND ELECTRONICS
TELEPHONE: +44 (0)1993 812685
COST: £19.99 (£24.99 from Crystal Software and Electronics, including P&P)
WEB SITE: http://www.allcomm.co.uk/~fortress/main.html

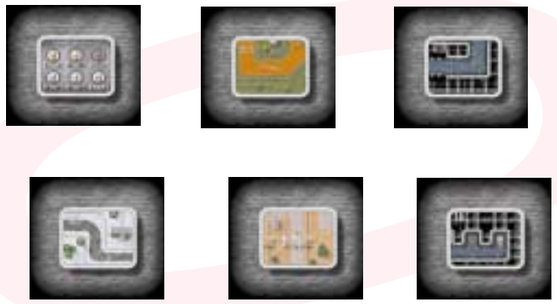
Max Rally

Years after the 2D racer has all but died out, along comes another. Does it resurrect the genre?

Despite its name, Max Rally has been designed to work on a minimum-spec Amiga. This does not bode well for a product's potential "wow" factor. Two floppy disks, two Megabytes of memory and AGA - is that all? Oh well, I hope it's worth it.

If you have 3 Megabytes of memory (oh, go on then) you can install the game on your hard drive. The installation procedure is functional, using its own custom installer. Functional, that is, up until the point where you double-click on the Max Rally icon only to find an IconX window complaining about a missing library. Scrabbling around for the original diskette, you locate the missing library and curse at the installer for not doing its job properly. Then you double-click on the icon again, and - predictably - another missing library is spotted. In goes the original disk that you threw into a corner after cursing the installation procedure the first time, and across goes the other library. The disk comes out again for - hopefully - the last time, and Max Rally... loads!

Because it runs in AGA, you'll need a monitor connected to your Amiga's built-in RGB output (or a TV on the aerial output) to play this game. One might have hoped that such games would be dying out as we go into the 21st century, but evidently not. Oh well, I hope it's worth it.



And... they're off!

Oh no, my mistake. First, you must choose your mode of play. Well, actually, no. Sorry. First, you must turn off the music. Then you must choose your mode of play... Championship, Time Trial, or Multiplayer. In Championship mode, you (and only you, for this is a single-player Billy no-mates mode) race against three computer-controlled opponents over 20 different tracks. You are granted five lives (presumably by race officials), and should you complete each race in first position, you will be crowned winner of the Max Rally Championship. Time and points, then, appear to mean nothing, unlike in a real rally.

Time Trial mode sees you pit your wits against the clock. Either that, or you and a friend (or three) can compete against each other. In multiplayer time trial mode, all players race separately - the winner is the one who finishes in the fastest time.

The separate Multiplayer mode, meanwhile, provides two-player split-screen, two player link-up (via a null-modem lead) or four-player split-screen link-up modes. Phew! Battle mode is also an option - all players race together, simultaneously, on the same screen. Points are won by staying on the screen until other cars are eliminated, which occurs when a car falls off the back of the screen. Amass five points, and you win!

Style and Character

Before the race commences, you have to choose one of six characters, each with their own attributes. They are, in order of absurdity: Jake, Maverick, Viper, Hog, Thor and Amazon. Do not confuse the latter with the choice of terrain: Woodland, Cosmic, Alpine and Dunes. Thankfully, you can change the names of the players, as you can change the number of laps to be raced on each track. Why you can only choose 6, 9, 12 or 15 though, is anyone's guess. After three, it becomes tiresome.

Controlling your car is a mediocre affair. Hold down the firebutton on your joystick, turn left, turn... ooh, a little ramp! Whee! Turn right, hit wall (accident), turn left, hit other car, get bored, try to doughnut it, fail, curse, press escape.

The tracks are rated in terms of difficulty. Five star tracks are, presumably, those that require the highest levels of concentration, guile and cunning in order to win. In actual fact, they're just more twisty, perhaps with a jump in the middle somewhere.

Max Rally fails to inspire. It's fun for a little while, in a sub-Skidmarks sort of way, but the computer opponents are too easy and the multi player mode isn't imaginative enough to retain interest for long. It's like the original Micro Machines, only half a decade late. Five years ago, maybe. But expecting twenty quid in exchange for a two megabyte, two dimensional, two disk AGA racing game is far too much these days.

David Stroud A

Max Rally 4/10

SYSTEM: **AGA, 2MB of RAM, or 3MB of RAM and a hard drive.**

SUMMARY: **Competent, yet uninspiring. Basic, yet expensive.**

Contents

Interactive

Your chance to pester the Editor! Write to: Amiga Active Magazine, 3-11 Spring Road, Bournemouth BH1 4PZ. Or, if you enjoy the pleasures of being online, send your e-mails to us at **interactive@amigactive.com**

Smells like Amiga spirit

It was a great pleasure to discover your stand at the Amiga show in Cologne and subsequently read the first two issues. I used to have a subscription at CU Amiga, which brought me news about what was happening on the UK and US Amiga scenes. When it stopped, I felt like the Amiga would fail for good. Further events were only confirming this downward trend.

Unlike other computers - PCs where almighty $$ corporations brings home the goods and nobody talks to anybody else - no Amiga is an island and its force only comes from what other Amiga fans do to make it live. This month's section on animation software is a good example of that. If I run CyberAVI, I know that somebody as enthusiastic as I has spent time and energy on it. That's what makes using a sometimes-clumsy piece of computer equipment more interesting than any xxx MHz power monster.

PC analysts never got that and that's why they'll never understand why the Amiga keeps on going strong despite its successive failing owners. It looks like you can be the forum where ideas and programs are exchanged, commercial products are supported and trends are spotted. Keep on telling us what's happening, who's doing what and where the collective Amiga spirit is taking us.

You won a fan.

Vincent Carlier

Thanks for your comments, and I hope you enjoyed the Cologne show. Other commitments kept me away this year, but Mark, Russ, Neil and Simon seem to have enjoyed themselves, despite the absence of the traditional "Petro Party".

"Whilst it's true that Linux has been successful, it is also true that Linus wotsisface stood as a central point..."

Much time has been spent debating the meaning and even the existence of the Amiga Community; some people claim that it is what keeps them with the Amiga, while others are appalled and embarrassed by the notion. You have spelled out my feelings on the subject perfectly! The Amiga Community is not a community in the traditional sense of a tight-knit group, but more like the community of a city. We all live our separate lives with our separate interests and doing our separate things, yet there is a common language and local interests that link us together. We may not even know the name of our next-door neighbours, but we all love the neighbourhood - even if the CPU district is looking rather run down and the rates are high.

From a journalistic point of view it's easy to look with yearning at all the products they get to review in PC mags. From the writer's point of view there is nothing more rewarding than to write for people who take a real interest in what you are writing about, and on that front the PC market cannot compete.

Above: Plenty of new hardware and games at the Home Electronics World '99.

Philosophy made simple

Just read the article on the Soul of the new Amiga. You only need to ask two questions:

1. Is it a computer?
2. Do you love it?

If the answer to either of these is "No," then it's not an Amiga.

BTW - Tony Horgan has expressed views in your magazine and in Amiga Format that, quite frankly, get on my nerves. I'd rather he kept his opinions to himself.

Victor Bell

Pragmatic realism at its best. As for Tony - he just courts controversy! Here's some more Tony bashing.

Too many cooks

Hello,

Yesterday, I sent a mail that was rather disparaging of Tony Horgan. Although I don't agree with his views, I suppose I could simply ignore his articles, and feel I was a little unkind.

I posted the survey from issue 2 yesterday, in which I ticked that "On Trial" was a bad idea - however, this was after reading Tony Horgan's article. I've just read On Trial in issue 3, and whilst I found for the prosecution, unlike the author, I did find the article interesting. Whilst it's true that Linux has been successful, it is also true that Linus wotsisface stood as a central point for that system. I personally feel that "too many cooks spoil the broth".

Great mag.

Victor Bell, York.

"I know that somebody as enthusiastic as I has spent time and energy on it."

While there is much to applaud in the Open Source movement, I feel that Jason's comments in the On Trial article about it not being a panacea is an important point which hasn't really been addressed by the Open Source AmigaOS advocates. Open sourcing Mozilla has not provided us with a slew of excellent Netscape clones, and without some very cohesive structure an Open Source AmigaOS will mean no more that a lot of clever new hacks.

Readers may be aware of the Amiga Research Operating System project headed by Aaron Digulla, an attempt to rewrite AmigaOS 3.1 in clean, portable C. This is purported to be about 60% complete, and would obviously benefit significantly from Open Source. Perhaps if Amiga were to be made Open Source, an oversight committee of relevant developer and organisations such as Haage & Partner, Cloanto and AROS should run it.

Linux future?

I don't know how the Amiga can stand up to the Playstation, Nintendo or

Dreamcast, to be quite honest. Not unless something actually surfaces from Amiga, apart from announcements of Linux-based operating systems that don't have any hardware to go with them, and don't have much substance to anything any more...

I'd really like the Amiga to pull through with this, really, but the old technology is just too old now to bring it up to date, and the NG-Amiga doesn't seem to be doing too well. Hey, maybe we could all use Linux instead, and a version of Linux would evolve that was way better than 'doze, and in fact, evolved into something called... AmigaSoft.

"VMWare" I think, is a Linux program to run Windows, almost like an emulator, and it does it pretty well. Perhaps the future of the Amiga is in a cross-platform Linux distribution, which is not just a Linux distribution, but virtually a totally new operating system, easy to use, reliable, able to run Linux software, able to run Windoze stuff under VMWare, able to run Amiga-NG software. In short, something like Linux, but done properly for the home computer market! Then I could *really* ditch Windoze for Amiga, knowing that I will still be able to run 'doze on my PC if I ever need a particular PC program.

People could use Amiga to replace Windows.

As well as this, there could be an Amiga-specific machine specification, using G4 or Transmeta for example, that ran a version of this Linux-based next-generation Amiga operating system... a *proper* Amiga-NG... something like the AmiSlayer project that is being worked on right now. And because of its roots in Linux, Borland/Inprise would be able to port Delphi to it pretty easily, letting me fulfil my dream

Below: We missed this obvious "Open Source AmigaOS" joke last month...

Above: We received this e-mail greetings card from Elf, of Planet Elf, DruidPoet productions. The accompanying letter read: "Hello team, Just a quick note and a card to say thanks for your support of the amiga. <cockney>You're a star mate</cockney>". Crazy people, those druidpoets.

of being an Amiga programmer when I grow up.

Jonathan Drain

If you see the alterations to the base Linux platform as being a new API, you are talking about something very similar to Amiga's plans, and not that fundamentally different from any of the other pretenders to the Amiga throne. You don't even need the Linux kernel in that case - the QNX/Neutrino solution would be no harder to port Linux applications to that the heavily modified system you propose.

VMWare isn't really a computer emulator so much as an API emulator, like Shapeshifter or Fusion. It only runs on the same x86 hardware that Windows normally runs on, so while it's good for escaping the Windows environment while retaining Windows apps, it's not going to help out on a PowerPC machine. Conversely, good as UAE is, we're going to be a lot happier running legacy 68k Amiga support on PowerPC machines.

I think that the key to all this is cross platform tools. How much compatibility do we need to Windows? We certainly need to read Microsoft Office format files, but you can do that on Linux already. A lot of the most interesting future stuff will happen on cross platform APIs such as JAVA anyway. That really relegates the Windows issue to the same one as the Sony and Nintendo question - how do we get the games? Thanks to Sony, that should not be insurmountable. The complexity of programming the Playstation 2 has inspired a lot of games companies such as Criterion, Frontier Developments, and Rare to develop game development middleware applications, which allow extremely easy porting of games to any supported platform. For example, Dreamcast and PC future skateboarding game TrickStyle, using Criterion's Renderware, was ported in a matter of weeks. All we need is to persuade these companies to port their middleware.

Biased superlatives

I almost forgot about the advent of a new Amiga magazine, which appeared, apparently against all odds, but whilst in WH Smiths, I decided to buy it. Decidedly cheaper than other magazines in the past, however, it was 30 pages and a CD jewel case short.

I thought the layout and design was very modern and appealing. The content on a whole was the same, albeit the news was old news. All in all, well worth forking out for issue 2 when it arrived.

However, I began to notice the faults. And I don't mean trivial things such as glue, (which I must admit is better than used on issue1, or even sellotape).

It was becoming apparent, especially in the Rants and Raves section, that it was a magazine filled with biased superlatives.

Mark Mogelsby

I'm glad you like the magazine overall, but obviously we are concerned with any flaws we might be able to fix. However I'm not entirely sure what you mean by the magazine being filled with biased superlatives. Rants and Raves from issues 1 to 3 had almost no superlatives in it. G4 Macs were described as 'drop dead gorgeous" and their hardware "seriously powerful", while Altivec was called "enormously powerful", although the point was made that this is just hardware and could be Amiga hardware, so I'm not sure who that is biased for or against. Comdex was called 'the biggest and most important show in the world-wide calendar', possibly a touch biased against CeBit, but I still don't see what you don't like.

Trouble and Strife

I've been watching the Amiga Community for the last few months, and I've become quite alarmed at how lots of "Community Users" have started to fight against one and another. The Amiga Community is on its knees. Piracy seems to be on the up again, and no one seems to be investing in their Amigas in either software or hardware (I don't see why not, it's not as if most of them are going to stop working tomorrow).

There is no excuse not to buy hardware for your Amiga, there is a lot of good stuff on sites like mine (www.amibench.org :) and many others online (and offline with local retailers).

I think many things in the past have helped to raise the decline in Amiga software sales too, Lets take for example Web browsers - we had the "Free

Amiga" project. Their whole idea just seemed to stop people from buying what good shareware browsers are available like Voyager, IB, and of course AWeb.

I think that the Amiga community as a whole needs to support the developers in the community, even more so if they want to have a future. Piracy is sited as a main reason for lots of developers to leave the Amiga, I just don't understand it.

All it does is stab them (and the community) in the back, time and time again. If just for once in your life, if you care about the Amiga then care about the community, and buy the shareware, don't pirate it!

Mark Wilson
Team Member of AmiBench

The piracy issue isn't even about ethics any more, it's a simple matter of finance. If you need to sell 4000 copies of something to break even and sell 100,000 and another million people pirate it, you're still rich. If 2000 people buy it and 4000 people pirate it, you lose money and can't develop any more. Then the shops have less to sell and can't keep running, so the developers left have no-where to sell their products and they go out of business too. Eventually the pirates find that there is no more software coming for them to pirate, and there is no more hardware coming for them to run their pirate software on. All of which is little consolation to the dedicated and hard working people whose livelihoods they have just stomped all over. Sorry, programmer, but some selfish idiot just posted the game you dedicated two years of your life developing to a pirate BBS and you're going to have to get a job as a PC programmer if you want to eat. You WILL write us another one, won't you?

Of course the pirates will just tell themselves "Oh, well he's got to say that in a magazine, or the advertisers would complain." Yeah, right.

Andrew Korn

Below: Bluey checks the mail for dog biscuits, but is disappointed when all he finds are more subscriptions and surveys. Never mind Bluey!

This month: Slow drives, software crashes, memory problems, filesystem queries, platform choices and OS upgrades meet the Guru's gaze.

Boot Problems

Hardware

Hi there,

Ever since installing my new 3.5" HD the damn thing refuses to boot on startup. Eventually, after a great effort, (as this mail proves) it works. When I refit my old 2.5" drive it works first time with no trouble!

My system is:

- A1200 R1.d.4 (not fixed)
- Apollo 1260/66
- 32MB of RAM
- Power Tower
- Hypercom1 (with fix)
- 32x CD-ROM drive

Anyway, I've tried various things with the startup-sequence and user-startup etc. to no avail. Please help?

Adrian Newman, via email.

This sounds like the slow drive syndrome. Some hard disks take longer than others to get the disk platter spinning up to speed, and the drive won't ready itself until that happens. The 3.1 version of the Amiga ROM was modified to allow slower drives more time to spin up, so if you are still using kickstart 3.0 it might be worth the upgrade (especially as it allows you to run OS3.5). Some drives may be too slow even for the latest hardware, in which case you'll have to live with the fact your machine will need a soft reset after the drive has reached full speed.

One thing that can help is to cut the 'Reset' line to the hard drive, as indicated by a thin red line on the IDE cable running to your drive. Cutting just this one wire will stop the drive getting reset signals, and this will keep the drive spinning.

Disk Dilemma

Software

Dear Guru,

Firstly, let me congratulate you on an excellent new magazine. The comments on the mailing list regarding its Tardis like qualities are certainly well deserved.

My problem comes in two parts: I have an Amiga 1200 in a Power Tower with a Magnum 68030/50 processor with FPU, MMU and 16 MB of Ram. There is also a 20-speed CD and 1.3 GB HD on an Eyetech buffered interface. I use a registered version of Miami and IBrowse 2.1 for Internet surfing.

The system is normally quite stable apart from when Ibrowse is in use when it will crash for no apparent reason. Guru History tells me the cause is as follows -

```
Task:   Ibrowse
Error:  8000000D
        (Deadend)
By:     System
Cause:  Co-processor
        protocol
        error.
```

I know it is caused by IBrowse since Yam and Miami are very stable. A trial version of Voyager also seems quite stable. The problem appears to be Ibrowse not liking the FPU but I am loath to remove this from my system because many other applications make use of it. I use a number of system hacks including MCP and wonder whether one of these could be the cause.

This leads into the second part of my query. Quite often, following the crash, the hard drive partition containing my Net software will not validate even using utilities such as DiskSalv. I then have to backup the software and data on that partition to another partition, reformat, and then copy the software back again. This doesn't take too long but it is a chore I could do without.

I am using AmigaOS 3.0 and the old Commodore FFS, which I understand is unreliable in this way. I also appreciate that things have moved on this area. I have heard of things like Allegro CDFS for CD-ROM and DVD and Amifilesafe but I wonder what else is available and what installation would entail. I assume I would have to reformat the entire HD and since back up to floppy disk is my only option, this is not something I would wish to undertake lightly. Is there any chance we could have a tutorial on filing systems since I find the whole thing very confusing and I am sure I am not alone. Yours faithfully,

Stephen Mowbray, via email.

OK, let me address your points one at a time:

The IBrowse problem is one which we haven't come across here, but could be some problem with the 030 and 68882 FPU code. It's impossible to be sure what's causing the problem without more information, but it could be a Datatype fault. Try running Snoopdos (in the Guru draw of this month's CD) and look whether the crash is being caused by a particular event. Perhaps an e-mail to the author would reveal more information, and lead to a possible bug fix.

Below: Slow resetting hard drive? You could try cutting the reset line (pin 1) on your IDE cable. Take care and cut the red marked wire only!

Take care - cut the red marked wire only!

Your hard disk invalidation is an unfortunate side effect of FFS, but usually a good salvage program will recover it. I would definitely recommend buying and installing PFS3 as this has a much higher resilience to disk crashes during writes. Try RamJam Consultants on 0118 946 5940 for a copy. You will need to backup the partition you are changing to PFS3 though, but you don't need to go to the extreme of floppy disks. As each partition can be changed independently, you can copy your files to another partition, install the filesystem, format, and then copy back again. PSF3 was featured in issue 1, and includes an in-depth explanation of how to go about installing and converting each drive in turn.

Silly SIMM

Hardware

Dear Guru,

I am having problems with an 8 meg SIMM I have recently acquired from my brother. I have a standard Amiga 1200 with a 1 gig hard drive and a memory expansion board. When I put the 8 meg SIMM into my expansion board it boots and works for a while but it then crashes and on boot-up again it becomes really unstable. But when a put my 4 meg SIMM back in it works fine.

I know the 8 meg SIMM is fine because it worked in my brothers blizzard 030/50 IV for years and that the board should be able to handle the 8 meg SIMM and I was wondering if it could be a power problem.

Darren Glenn, via email.

Older memory expansion boards for the A1200 tend to be very poor and have compatibility problems. It may be that you are trying an EDO SIMM, which will not work in older boards. Other problems can occur with memory cards, especially when you go over 4MB. The extra memory is mapped over the area that is used for the PCMCIA port, normally just rendering it useless, but it is possible that the bad memory mapping is causing your problem. If possible try another SIMM in the card, and if it still poses a problem, chances are the memory card simply doesn't like more than 4MB Ram installed. Having said all that, please do consider buying yourself an accelerator. Cheap ones are now under £60, and while that won't buy you the earth, it should solve your memory problem and make your Amiga much faster and more enjoyable to use.

If you are worried about a power problem, try and find an A500 power brick, as these units were manufactured to a higher rating than the A1200 ones.

PC or Amiga?

Hardware

Hi Guru,

I am a first-year computer science student who is wondering whether to purchase the new Amiga BoXeR system or a top of the range PC laptop system. I am already aware of the capabilities of the Amiga, but it will be a nuisance if I cannot use it to run the PC software that I need to utilise in my course. In terms of Amiga hardware or software emulation, how far will it take me? Cost is not a problem.

Adam Natesway, via email.

With any choice like this you need to sit down and evaluate what you really want the machine to do. If you need to run PC software packages then the PC system is going to be a better bet for you. If you just need compatible files, you'll often find suitable Amiga software.

The BoXeR will be a nice machine when it arrives, but it still isn't going to offer a massive increase in power. A PPC BoXeR or an Amiga with a Power Up card would provide a good platform to run a PPC version of PC Task or PCx on, and would give far better results than we can hope for now, but it still isn't going to be like the real thing. Ultimately, if cost is not a problem, buy both machines and get the best of both worlds.

OS Upgrade

Workbench

Hiya,

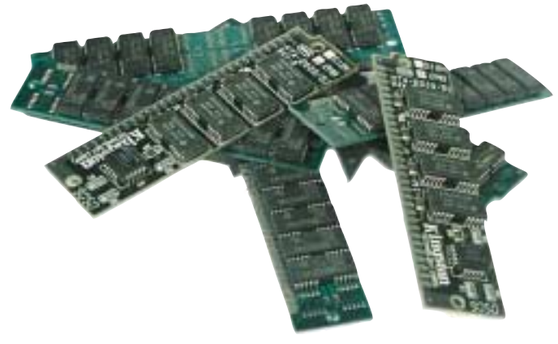
I'm considering buying OS 3.5, but I'd like some help first, please.

The main thing is, how does it cope with running alongside DOpus Magellan II? I seem to remember reading somewhere that the way Opus and OS 3.5 handle icons (specifically Newicons) are incompatible. I use Opus in WBR mode, with newicons enabled- am I likely to have any problems? Are there any other problems I'm likely to encounter using 3.5 and Opus together? Thanks in advance,

Adam Eccleshall, via email.

The Guru also runs Opus in WBR mode, and there were some icon problems associated with OS3.5, but GP Soft have now released a patch on their web site that fixes the NewIcons problem. Opus really does make the best of OS3. The underlying operation of OS3.5 is helpful in the more mundane tasks, and the two work extremely well together.

The Guru A



Feeling blue? Ask the Guru

It's not necessary to climb the Himalayas to bring your problems to the *Amiga Active* Guru. If you have any technical problems, tips you'd like to pass on, or requests for in-depth coverage of a particular problem, please send them to: Ask The Guru, *Amiga Active* Magazine, Systems House, 3-11 Spring Road, Bournemouth BH1 4PZ - or e-mail them to the Guru's personal mailbox: guru@amigactive.com

Please don't send us an SAE with your letters, as we cannot enter into personal correspondance due to time constraints. Also note that techincal queries cannot be answered over the 'phone, as the *Amiga Active* Guru spends most of the month meditating.

What do they mean?

- *Our lovely Guru will sort out your silicon.*
- *Sloppy software? Bug the Guru!*
- *Networking and the art of Zen explained.*
- *Get the most out of your Workbench.*
- *Confused about your creative potential?*
- *Save money - get the job done yourself.*
- *Say WHAT? You must be bonkers!*

Still Searching...

Finding the right information on the Internet can be a daunting task. This month, we show you how the web can work **for** you...

The best thing about the web is the huge amount of information on it. The worst thing about the web is the huge amount on information on it. Somewhere on the web is exactly the piece of information you're looking for, but finding it can be more difficult than the proverbial needle in the haystack.

What we need is an index, but how do you index something that's continually changing? It's not an easy task, but it's what the search engines have done. Most of them use a program called a "spider". This starts with known pages, scanning their contents and adding them to a database. Then the spider follows the links in each page, travelling across the web and increasing the amount of data in the database. In theory, any page that's linked from another site should end up in the database. In practice, many search engines have a good coverage, but no single search engine will reach every page on the web. For this reason, it's best if you don't stick to only one engine but use several; there's a comprehensive list on the CD, ready for you to click on.

All the search engine has to do is let you search the database, but the database is so huge we need to know a bit about how it works to get the best from it. This basically means giving the search engine clear information on what you want to find, and maybe on what you don't want to find. For example, let's say we want to buy a new hard drive and are looking for a supplier of drives at the best price. We go to Alta Vista, type 'hard drive' and press 'Search'. The search engine will interpret this as you saying "please find me all pages related to 'hard' or 'drive'". Pages containing both keywords will be presented first, but you'll still get a huge number of hits, 685623 when I tried it.

The first thing to do is tell it that 'hard drive' is a phrase rather than a list of keywords. Do this by enclosing it in double quotes, '"hard drive"'
(single quotes here are used to indicate what you type - any double quotes should be included in the search string).

We want a supplier in the UK, so we can add this to the search string '"hard drive" UK'. Now we get over three and a half million hits, because Alta Vista has searched for sites on the keywords of "hard drive" /OR/ UK. However, pages containing both keywords will have been returned first, so the first page you see will contain a few likely candidates. Also note that you can make a word of phrase compulsory by prefixing it with '+', so '+"hard drive" +UK' should only return pages that contain both phrases.

Narrowing down

Each time you search, the results page contains a search box with your previous request already filled in. You can easily refine the search by adding further words of phrases to the search string and clicking the Search button again. It's often a good idea to add a word that may not directly relate to the item you are searching for, but is often associated with the type of pages you are looking for. Since we want to buy this hard drive, preferably online, let's expand the search string to '+"hard drive" +UK buy order'. Most online ordering sites will use one of these words, often several times on the page, whereas a site dealing with technical aspects of hard drive usage would not. If you were looking for technical information, use words that are likely to appear there, such as "controller," or "cache" (don't use "access" because it can apply to both a measurement of speed and a means of buying online). Searching for '+"hard drive" +UK buy order' reduces the total number of hits to 21,000, with the first two links returning very likely looking candidates.

The use of secondary keywords to narrow down the search can make the difference between finding what you need and being overrun with irrelevant links. In addition to the '+' prefix to make a word compulsory, there is the '-' prefix. This excludes sites containing the word from the search. For example, you want to find serious sites on Elvis Presley. Searching on '+"Elvis Presley"' will find these, but will also find a lot of less than serious sites. Searching for '+"Elvis Presley" -alien -checkout' will exclude sites covering his abduction by aliens or sightings at the checkout of the local Sainsbury's.

Everything we've covered so far relates to most search engines; they have a pretty consistent way of doing things. But sometimes you need more control over the search, and many engines provide an Advanced Search section. These usually add extra features, such as being able to use Boolean logic in search strings. This will accept search strings like 'President NEAR "White House" AND NOT cigar'. The NEAR keyword on Alta Vista means that the two phrases must appear within ten words of each other to produce a match. Most of the time these are unnecessary, you can usually find what you need by starting with a standard string and refining it. Nonetheless, it's a very useful option to have available. Alta Vista's standard search also has some extra keywords you can use when searching. For example, domain:uk would return only matches with a .uk domain name, title:Elvis would return only pages with 'Elvis' in the page title. There are more of these, all documented on Alta Vista's help pages.

Horses for courses

Each search engine is different, not only in the pages they have in their database but in the way they index them. Using the "web spider" approach means that the content of the database is dependent on the pages linked to by those previously known to the search engine. This isn't normally much of a problem. A site would have to be very isolated, almost hermit-like, to not be linked to by some known page. The different indexing methods do make a difference. Try searching for the same string on several engines and see how they give different priority to their results. A good example of a different way of indexing sites is Google. This search engine ranks pages according to how many other sites link to them. The more sites that link to a particular site, the more important it is considered. For example, if you search for 'Amiga' at the traditional search engines of Alta Vista, Yahoo and Lycos, they all return the Amiga home page and one or two news pages.

None of them return both of Amiga Web Directory and Amiga Org, arguably the two most popular, in the first list of sites. The rest of the listings contain relatively small sites, or multiple references to the same site. Google, on the other hand, returns Amiga first, Amiga Web directory second (with indented listings for subsections of the site), suite 101, Cloanto and Amiga Org, in that order.

More than web sites

The main search engines allow you to search for far more than just web pages. You can search newsgroup postings and FAQs for information. You can even search the web for images, sounds video files. There are also several sites that will search for people or companies, returning e-mail addresses and even telephone numbers. Some of this information can be very out of date, but it's still extremely useful at times.

Neil Bothwick A

> **"How do you index something that's continually changing?"**

You may not need a search engine...

If you are looking for a particular company, it's often quicker to make a guess at their URL. Tacking 'www.' onto the front of their company name and '.com' or '.co.uk' at the end will often reveal the company's web site. Even if they don't have that domain, because someone has already registered it, they may have a "If you were looking for..." link. Companies will often register variants on their domains, to increase your chances of finding them. For example, both www.amigactive.com and www.amigactive.co.uk take you to the same place.

Below left: Not all search engines are the same. Try several and pick the ones that work best for you, but never restrict yourself to only one.

Below: AltaVista searches for more than web text. Here you can search for multimedia files.

Search engine URLs

General search engines:

Alta Vista	**http://www.altavista.com**
Lycos	**http://www-english.lycos.com**
Yahoo	**http://www.yahoo.com**
Webcrawler	**http://www.webcrawler.com**
Deja News	**http://www.dejanews.com**
Northern Light	**http://www.northernlight.com**
Excite	**http://www.excite.com**
HotBot	**http://www.hotbot.com**

Directory search engines, for names and addresses:

Infoseek	**http://www.infoseek.com**
Magellan	**http://www.mckinley.com**

Sites which submit your request to several engines:

Mamma	**http://www.mamma.com**
MetaCrawler	**http://www.metacrawler.com**
Ask Jeeves	**http://www.askjeeves.com**

FTP search engines:

FTP Search	**http://ftpsearch.lycos.com/**
Shareware.com	**http://www.shareware.com**

Amiga related searchers:

Amicrawler	**http://www.amicrawler.com**
Amiga Web Directory	**http://www.cucug.org/amiga.html**

Cool Sites

...and News Bytes

'Scuse me, while I...

http://www.kissthisguy.com

"Well, go and get stuffed..." If that's what you thought Billy Ocean was singing back in the 80s, here's the site for you. KissThisGuy.com is a tribute to misheard lyrics, containing nearly two thousand confessions about how people misheard a lyric and embarrassed themselves by singing their own version, often in public. The site's name comes from "the world's most commonly misheard lyric" in Jimi Hendrix' legendary "Purple Haze."

All praise Mahir!

http://members.xoom.com/mahiractive/

The web is often claimed to be a great leveller. Large and small companies can present themselves equally. This was taken to extremes when an individual's homepage received well over a million hits in a very short time. Mahir is a Turkish man; "geezer" would probably be the appropriate description. For some unknown reason, his site received a lot of hits in a short time. This resulted in more visitors going to see what all the fuss was about and the whole thing snowballed.

Now there are Mahir tribute sites, Mahir screensavers, and almost a Mahir sub-culture. All this came about from a basic homepage of a Turkish guy describing his interests, many revolving around his quest for female, how shall we put it, "companionship."

Internet Security

http://grc.com/x/ne.dll?bh0bkyd2

Online security is something every Internet user should be aware of. The ShieldsUp site tests the security of your machine, checking whether you have left an opening for a hacker to gain access. Some of the tests are specifically aimed at Windows users, dealing with security holes in that system.

Many more tests look for danger areas that may exist when running any operating system. As well as testing your system, the site also gives an explanation of the results. As we move towards the possibility of permanent, or at least long duration, Internet connections, the importance of making sure your machine is secure is increasing. Whilst no one site can cover everything, this one serves as an excellent starting place.

Monopolistic practises

http://www.ms-monopoly.com

With all the publicity surrounding the Microsoft monopoly investigation, it was inevitable that someone would release a Microsoft version of the famous board game. It is worth the effort of installing a Java-capable browser just to read the comments on the Chance and Public Purse (Community Chest?) cards.

Unmetered calls?

British Telecom claim to be finally offering unmetered Internet calls, albeit with some limitations. The new Service Provider Tariff will enable ISPs (Internet Service Providers) to provide dialup access for an average of eight hours per day, at a cost of £11.75 (£10 + VAT) for each user. ISPs will be free to set their own charges for unmetered access; they will also be able to vary the daily time allocations. However, this seems unlikely since BT have publicised the costs to the ISPs. We are waiting for more details from BT before ISPs will be able to say exactly how this can be implemented. The initial announcement was made some weeks ago, and has received by some sceptical responses from the industry. So far, BT haven't given enough information to say whether this is really a good thing, or just existing rates repackaged as hype. Rest assured, we'll tell you when we know.

http://www.bt.com/
or http://www.bt.com/nonjava

Banking Online

Amiga users have often been denied access to online banking services. Barclays and LloydsTSB have recently changed their online banking systems and they are now accessible with an Amiga browser (although you may have to spoof as Netscape/Mozilla).

http://www.barclays.co.uk
http://www.lloydstsb.co.uk

CallNet swamped

CallNet0800 was recently launched on the promise of totally free Internet access. With no subscription fees and free call access at any time of the day, we shouldn't be surprised that the launch proved popular. However, CallNet themselves appear to have been taken by surprise and ended up having to suspend the registration service shortly after launch. Meanwhile, many of those that registered are still waiting for their applications to be processed.

This should not be seen so much as a criticism of CallNet but as evidence of the demand for unmetered Internet access in the UK. It's clearly too much for any one ISP to deal with - we really need a national solution that will enable any ISP to provide unmetered Internet calls.

http://www.callnet0800.co.uk

Retroactive

This month, we fondly remember the various Amiga 3D packages that used to grow on trees...

If you're at all serious about 3D software on the Amiga, you might be using Newtek's Lightwave 4 or 5: it's extremely professional and polished, and even on 68040-based Amigas was responsible for some famous television and film effects. Or Imagine: quirky and perhaps a bit tricky at times, but inexpensive and powerful. Then there's the late lamented but not forgotten Cinema4D, or Tornado, the only commercial rendering program to even make an attempt to support modern hardware.

Back in the days when Amigas were the only affordable platform worth displaying 3D renders on, 3D software practically grew on trees.

You had Sculpt4D from Byte-by-Byte. It wasn't a bad little program for the late 80s, but Byte-by-Byte was one of the first developers to lose faith in the Amiga and ditch the platform in the early 90s. Now they a developer budget 3D software for Windows and Macintosh. Fans of the Commodore video retrospective The Deathbed Vigil may recall a discussion between two female Commodore employees, who suggested shooting and stuffing the Adonis-like president of the company, both for the eye-pleasing value and to stop him from slamming Commodore so often.

Caligari 24 (now TrueSpace for Windows) had slick advertising promising results like Terminator 2. Very few people ever figured out what Caligari really did, partially because the advertising was unwilling to tell you and largely because of the four-figure pricetag.

They weren't true 3D packages, but Scenery Generator and Scenery Animator were fun fractal landscape programs that weren't as much of a hassle as VistaPro. Scenery Generator also made for a great benchmark when upgrading to something luxurious like an '020 or '030, as landscapes with detail greater than nasty block pixels could be drawn in mere minutes! Scenery Animator has matured into Natural Scene Designer for the Macintosh, but it still uses most of the same crummy camera controls from the Workbench 1.3 version.

Competition is king

Anybody who doesn't think competition is vital to software markets is kidding themselves. It's easy to forget that Lightwave was once exclusively bundled with the NTSC-only Video Toaster and would not run without it (despite the fact that the Toaster did absolutely nothing except serve as an optional video output.) This made Lightwave nearly impossible to use outside of the US and Canada, and extremely expensive for people who had no interest in the Toaster video hardware.

Along came a little outfit who put together a parallel port dongle called LightRave, which would fool Lightwave on any Amiga, NTSC or PAL, into thinking that a Video Toaster was attached. It retailed for nearly UKP 400, but buying Toaster upgrade software and the LightRave was still far cheaper than buying an entire Toaster. You wouldn't believe how fast Newtek made Lightwave stand-alone product after that.

Don't forget Macintosh emulation. Mac emulation on the Amiga was around since 1987 from Readysoft's A-Max, but it took the threat of the Emplant board to break out of the non-multitasking, monochrome emulation into the good stuff we enjoy today. After Emplant had crushed A-Max, Utilities Unlimited too got fat and slow with their extraneous hardware dongle board, and it took the emergence of ShapeShifter to break the expensive Emplant monopoly and make Mac emulation cheap enough for everyone. Ain't competition grand?

> **"Along came a little outfit who put together a parallel port dongle called LightRave which would fool Lightwave..."**

> **"...a discussion between two female Commodore employees, who suggested shooting and stuffing the Adonis-like president of the company..."**

Gremlin Grumbling

More than one person who's had a look at the Gremlin compilation CD (The Best of Gremlin) has complained about the fact that cracked, pirated versions appear on an officially sanctioned release. The reason is simple: software companies have extremely short memories and small vaults. Since the late 80s, when platform shifts began and software companies started buying each other up like crazy, an awful lot of master copies of software have all but disappeared.

That's ostensibly where the "abandonware" piracy movement gets its justification. Abandonware aficionados see themselves as an unofficial "international software preservation society," who keep circulating unforgettable classics such as the original Amiga Mindwalker game and Windows 1.01, lest these creations be lost forever. Legally, they haven't a leg to stand on, but it is true enough that literally thousands of software programs are gone forever. It amounts to a substantial percentage of the creative energy that's gone into computing over the past few decades. Consider doing your bit for software preservation, if for no other reason than to ensure that the 20th century is not judged on Microsoft Word alone.

Jason Compton A

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AMIGACTIVE MAGAZINE
Issue 5 - February 2000

Next month's Amiga Active will contain the results of our first survey, along with a few minor tweaks to the magazine, inspired by your feedback.

We will also be welcoming on board a new member of the Amiga Active team.

Also in next month's issue, depending on life's usual uncertainties, will be:

Pagestream 4 — **full review**
CD writer — **round-up**
Portable Computing — **and the Amiga**
Active Gallery — **...the return!**

Plus, possibly, some or none of the following products we were hoping to have in time for this issue, such as:

Goal! 2000
Whale's Voyage 2
Ami-Atlas
Tornado 3D
Tales From Heaven

And, you never know...

HereticII
AmiJoe G3
and a special news feature?

...and plenty more*. Don't miss it!

That's issue 5, on sale Thursday, January 26th 2000. Oh yes.

To find out in advance just how well we've predicted the future this time around, or if you want to find out how to join our electronic mailing list, keep an eye on our web site

Amigactive Online: www.amigactive.com

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